HOSPITAL ABSTRACTS

A MONTHLY SURVEY OF WORLD LITERATURE

PREPARED BY THE DEPARTMENT OF HEALTH

AND SOCIAL SECURITY

VOLUME 16, NO. 10, ABSTRACTS 1380-1524. OCTOBER 1976

LONDON: HER MAJESTY'S STATIONERY OFFICE

85p net

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First published 1976

ISBN 0 11 722474 X

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HOSPITAL ABSTRACTS

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HOSPITALS IN GREAT BRITAIN

See Abstract No. 1388

HOSPITALS IN OTHER COUNTRIES

1380. CHAMPION, J. M. **General hospital: a model.** Baltimore & London, University Park Press, 1976, viii, 251pp. £7.95

This volume is designed as a training and research tool to be used in schools of hospital administration and hospital in-service management development programmes. It comprehensively describes the organization, health service area, operating budget, construction, use, and departmental activities, services and staff of a hypothetical 200-bed, voluntary acute general hospital. Also included are discussion questions, task-oriented exercises and reading lists consisting entirely of United States literature.

1381. BLEWETT, P. B. and STEWART, D. Y. **University Hospital, London, Ontario: a successful beginning . . .** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 38-40, 42.

University Hospital, London, is the final stage in the development of a health science centre for Southwestern Ontario. It is located on a 26-acre site near the University of Western Ontario. The first patients were admitted in 1972. The 465-bed hospital has an occupancy rate of 85 per cent. There is a staff of 1,500 including 112 doctors. The design features of the hospital are outlined. The 10-storey structure comprises a basement, three floors each of 100,000 square feet, and a seven-storey tower. Each tower floor is a self-contained unit representing a clinical department or combination of related clinical departments, and has 60 beds with conference and teaching facilities, an out-patient department, research laboratories, offices, lounge areas and a library/conference room. Each doctor is near his patients as well as his working office, teaching areas, and research interests. The design of the in-patient conference area and the out-patient, office and research areas is outlined. The organizational structure has adapted the principle of decentralization by creating few administrative positions on a horizontal structure and short, flexible lines of communication. Regular meetings are held for all senior staff. The concept of team nursing adds to the decentralization. Service co-ordinators plan, co-ordinate, facilitate and direct the provision of support services to patients and staff. About 200 nurses and 50 nursing assistants are working a 12-hour day and an assessment of the shift system shows strong support for its continuation.

1382. Genees- en Heelkundig Instituut—Vilvoorde: van de kruistochten naar de jaren 1980. **[Medical and Surgical Institute, Vilvoorde: from the crusades to the year 1980.]** *Hôpital Belge*, Bruxelles, 1976, March/April, no. 120, pp. 9-13.

Tracing its history to a seven-bed institution founded by the Teutonic Knights during the Fourth Crusade (1195-1198), this 127-bed hospital was opened in 1969. Details are given of the services provided on each of the five floors and in the basement. Brief plans for future expansion by 120 beds are included.

PLANNING, DESIGN AND CONSTRUCTION

DETERMINING SIZE OF HOSPITAL AND BED NEEDS

1383. SIBOLE, W. R. **The impact of bed planning standards.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 34-36.

The development of bed-planning standards in the Province of Ontario is outlined. Two major influences are age distribution and the development of standards for the 1980 projected population. The objective is to keep the number of active treatment beds at 4.0 and 4.5 beds per thousand in Southern and Northern Ontario respectively. As the population grows and redistributes itself in newly developed sections of the province the distribution of hospital beds develops ever widening gaps until a new hospital is built or an existing one expanded. The provision of psychiatric beds, general rehabilitation beds, special rehabilitation beds and beds for chronic care is analysed. There is an oversupply of general acute beds in Ontario, but there is a significant shortage of beds devoted to other levels of care. The key to bed planning lies in developing co-ordinated methodologies which serve as guidelines to the provision of all health care facilities on a rational basis.

SELECTION OF SITE

1384. STUDNICKI, J. **The minimization of travel effort as a delineating influence for urban hospital service areas.** *International Journal of Health Services*, New York, 1975, vol. 5, no. 4, pp. 679-693.

A study of the 16,080 live births in 16 hospitals in Baltimore City in 1969 measured the existing flow of patients against the flow 'expected' using an optional accessibility model (where each birth would occur at the hospital with the shortest travel time to the mother's home). The results indicate that there is a general pattern of distance minimizing in travel for hospital admission, with 50 per cent of the births occurring to women who travelled to one of the four closest hospitals of the 16 alternatives. A large proportion (20 per cent) travelled to those four hospitals which were furthest away from their homes. Five variables were identified to explain the variation in travel: (i) low hospital occupancy; (ii) high total hospital admission; (iii) average extra travel time potential; (iv) race; and (v) the importance of the hospital's obstetrical service (ratio of births to total admissions). The findings suggest that: (i) the payment status of the individual is an important determinant in the distribution of patients to hospitals; (ii) the geographical catchment area concept is subject to severe

limitations in metropolitan hospital planning; and (iii) the changes in the composition of individual hospital patient populations are more likely to produce changes in aggregate travel patterns than any new master plan for future hospital location.

CONSTRUCTION METHODS AND BUILDING MATERIALS

See also Abstract No. 1386

1385. VERDUN DI CANTOGNO, M. Aspetti metodologici della progettazione ospedaliera. **[Methodological aspects of hospital design.]** *Tecnica Ospedaliera*, Milan, 1976, June, no. 6, pp. 12-15.

Given the present economic situation, the building of grandiose hospitals is no longer possible, even if desirable. The modular system, which can be adapted to specific programmes and construction techniques, is flexible and allows for phased construction and expansion. A macro-module of 7.20×7.20 metres is structurally economic, and can be built in traditional materials or prefabricated. The various departments should be grouped around an articulated grid of communications and installations. Fittings should be based on a module of 1.20 and its multiples and sub-multiples, and standardized as much as possible.

HOSPITAL DESIGN

See also Abstract No. 1385

1386. BRIOSCÚ, A. and MCEVATT, W. **Modular framework. 4. Hospital buildings: recommended vertical and horizontal controlling dimensions.** (Foras Publication 7/ct/75). Dublin, Au Foras Forbartha, 1975, 12pp. £0.50

This report is the fourth by a series of sub-committees set up by the Irish Inter-departmental Committee for Component Rationalization to recommend a framework for controlling dimensions for particular categories of building. It sets out the agreed modular framework to facilitate the design of hospital buildings incorporating dimensionally co-ordinated components. It is based on a 100 mm. module, designated M. The recommended values for hospital buildings are 3M (for use in particular circumstances), 6M and 12M. Numerous diagrams are included.

1387. MILLS, E. D., editor. **Planning: buildings for health, welfare and religion.** 9th edition. London, Newnes-Butterworth, 1976, [vi], 184pp. £10.00

The ninth edition of *Planning*, first published in 1936, has been divided into a series of volumes dealing with specific building types. In this volume there are chapters, among others, on: hospitals; health centres, clinics and group surgeries; residential buildings for the disabled; homes for the aged; and ambulance stations. Each chapter has an introduction and bibliography and subsections on siting, planning, space requirements, data, accommodation, statutory requirements, legislation and authorities, and examples. Plans and photographs are also included.

1388. HOWELLS, S. and HITCHCOX, B. **Nucleus hospitals.** *Hospital and Health Services Review*, London, 1976, June, vol. 72, no. 6, pp. 206-211.

The background to the development of nucleus hospitals (see *Hospital Abstracts*, Vol. 16, Abstracts 459 and 1235) and their aims and objectives are outlined. Also discussed are service planning, area/district relationships, functional content, first phase nucleus, whole hospital growth, departmental growth, departmental designs, uses of nucleus designs, extent of Department of Health and Social Security design work, costs, and consultation with health authorities. In addition to their value in the short-term economic situation there are long-term advantages in nucleus designs, and there seems every chance that, as development projects go, nucleus hospitals could have a relatively long future. Twelve diagrams are included in the paper.

DESIGN OF INDIVIDUAL GENERAL HOSPITALS

See also Abstract Nos. 1381, 1382

1389. **King Faisal Specialist Hospital.** *RIBA Journal*, London, 1976, June, no. 6, pp. 242-244.

The new hospital is claimed to be the first application of a total medical technology system and is adjacent to the Royal Hospital, Riyadh, Saudi Arabia. It has 240 beds and provides a comprehensive range of specialist medical services. It also has villas, flats, amenity buildings and a swimming pool for staff, an office block for the Royal Cabinet and a 'total energy' power house serving the entire complex. The 35-hectare site is fully landscaped and irrigated by re-cycled water from a sewage treatment plant. There are four main functional 'zones', each with similar characteristics and requirements: patient care, clinical, communications and supporting services. The zoning technique ensures that each part of the hospital is accommodated in a built form appropriate to its particular functional and environmental needs. Inter-departmental relationships have been considered throughout. Supplies are moved by horizontal conveyors running in the service tunnels in the substructure. The buildings are a reinforced concrete structure with stone cladding or textured tile and aluminium cladding. All buildings have air-conditioning and window openings have been kept to the minimum. The internal decorations are outlined. Plans and photographs of the site and hospital are included.

1390. Un progetto per l'Africa: nuovi approcci metodologici, 'specialist hospital' a Warri Bendel State Nigeria. [**A project for Africa: a new approach, 'specialist hospital', Warri, Bendel State, Nigeria.**] *Tecnica Ospedaliera*, Milan, 1976, June, no. 6, pp. 16-25.

This 578-bed project is virtually two independent hospitals—one for obstetrics, gynaecology, and paediatrics, and the other for general medicine and surgery. They are linked by covered passage-ways to central blocks containing two operating suites, diagnostic X-ray, physiotherapy and out-patient departments. The pharmacy, laboratory, laundry, etc., are grouped together at some distance from the other blocks but are also connected to them by covered corridors. The design is based on a series of modules and sub-modules and there is room for expansion. The emphasis has been on simplicity and durability, with a minimum of sophisticated automation. Five

photographs of models, two floor plans, and a graph showing the distances between the various blocks on the site are included.

DESIGN OF SPECIAL HOSPITALS OR UNITS

1391. Craeyenburch, een modern opgezet internaat met observatieafdeling en servicecentrum voor geestelijk gehandicapten. **[Craeyenburch a modern school with an observation unit and service centre for the mentally handicapped.]** *Instelling-Management*, Den Haag, 1976, June, vol. 8, no. 6, pp. 9-14.

This residential school (architects: Ir. J. W. van Niekerk and F. Schellekens B.V.'s-Hertogenbosch) with two of its three building phases completed and planned for 400 pupils, was opened in August 1974. Three identical 72-bed pavilions each contain two units for 36 pupils, which again are split into three self-contained units of 12. An 84-bed pavilion provides 44 beds for bed-ridden pupils, eight for those with behavioural disturbances and 32 for observation. Two 36-bed pavilions accommodate abler pupils in single rooms. The main building comprises 10 observation beds, sick bay, administrative and medical offices, physiotherapy unit and auditorium. A separate building houses therapeutic and recreational facilities, including swimming pool and 'pub'. In another building are the central kitchen, staff restaurant, stores, technical services, shops, etc. The third building phase will provide 28 'phase' beds for pupils soon to be discharged and 30 five-bed bungalows for resident staff. The philosophy behind the school is to help the mentally handicapped develop their optimum potential. The total estimated cost is fl.64 million (appr. £11.6 million). The paper includes photographs and a site plan.

GARDENS AND GROUNDS, PARKING

1392. BODDY, F. A. **Prescription for hospital grounds.** *Health and Social Service Journal*, London, 1976, June 19, vol. 86, no. 4495, pp. 1124-1125.

The planning involved in the maintenance of hospital gardens involves much hard work. Hospital gardens are frequently the result of acquiring additional land originally laid out as private gardens that have become a collection of bits and pieces. Often the simplest solution appears to be to rip out the plants and redesign the grounds, but unless there is much free money available other solutions may have to be considered. Maintenance of the grounds should be planned and extra trimming, weeding and mowing should be kept to a minimum. Contract maintenance coupled with some skilled direct labour for planting, pruning and chemical weed-killing under the supervision of the contractors may be the ideal system. If contract maintenance is used: (i) carefully select those who will be asked to tender; (ii) ensure that the firm asked to contract has adequate insurance cover; (iii) determine the work to be done; (iv) specify the method and frequency of mowing, weed control, and trimming of hedges; (v) if necessary insert a clause to cover watering especially of newly-planted stock; and (vi) ensure that the mundane operations of keeping the paths clear of grass, sweeping up and removing rubbish are covered. In most cases simple alterations to the ground pattern together with redeployment of staff and better use of mechanical and chemical aids can result in maintenance being carried out at no additional cost, and a modest sum set aside for plants and materials each year will enable further labour saving modifications to be carried out.

ENGINEERING SERVICES

COMMUNICATION SYSTEMS

1393. **Staff in/out register system is quiet, efficient, economical.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 52, 54.

The Scarborough Centenary Hospital, Toronto, uses a staff communication system 'A Digital Staff In/Out Register with RPP Interface' to improve staff efficiency and effectiveness and cut costs. The system is composed of a central processor, an operator's panel and an entry remote panel sited in the main hall. Each doctor on arrival checks himself in by means of a special staff number and any special messages are relayed immediately. By means of a pocket paging machine linked with the operator's panel the doctor can be reached without disrupting the hospital. Savings produced by this method are in installation costs and staff. Modifications can be added to the system to increase capacity or the number of additional users. An additional benefit is the reduction in noise level through the elimination of unnecessary paging.

HEATING

1394. MORGAN, R. H. **Energy conservation.** *Hospital Engineering*, Stevenage, 1976, June, vol. 30, pp. 8-9, 11-13.

Various precautions are required to ensure that the use and conservation of fuel is carried out to the maximum advantage. The technique of intermittent heating has been used for many years on heating and boiler installations. The most common method used today uses the compensation control incorporated in an 'on/off' heating system. A new method showing considerable savings when compared with conventional methods calculates the optimum start time for heating and boiler installations, and automatically switches on or off the heating or air-conditioning systems. The system is outlined. Methods of obtaining maximum boiler efficiency are considered. A relatively inexpensive optimizer control has been designed to provide optimum processing efficiency by acting as a trimming control for a plants' main process controllers. The system allows economies to be realized immediately by the optimization of fuel consumption and the minimization of pollution. The functioning of the control is described.

BOILERS AND BOILER HOUSES

1395. SIBLEY, R. B. **Conversion of manually operated boiler plants to automatic operation.** *Hospital Engineering*, Stevenage, 1976, June, vol. 30, pp. 17, 19-21, 23-25.

West Dorset Health District converted manually operated steam-raising plants at three hospitals to unmanned fully automatic operation during 1972 and 1973. The three plants, at Damers Geriatric Hospital, Dorset County General Hospital and

Portwey Maternity Hospital, were sited in very old buildings catering for 56, 64 and 68 beds respectively. The method of converting each plant is described together with the costs involved and labour force required to maintain each plant. Comparison of pre- and post-conversion costs shows that the capital expenditure was recovered within 12 months and thereafter considerable savings in materials and maintenance costs accrued. It is recommended that manually operated steam-raising installations should be thoroughly surveyed regarding adaptability and worklife, and serious consideration given to their early conversion to automatic operation in view of the need for fuel conservation and the rising cost of labour.

MAINTENANCE OF BUILDINGS AND EQUIPMENT

See Abstract No. 1399

SANITARY EQUIPMENT AND FITTINGS

1396. American Society of Plumbing Engineers. **Estimating hospital water consumption.** *Plumbing*, Hornchurch, Essex, 1976, April, vol. 3, no. 2, pp. 28-31.

For many years plumbing engineers have used a guide to hospital plumbing by Lawrence Guss for designing water loads and estimating water usage costs for hospitals. The Guss formula, estimating a need by each hospital bed of 220 gallons of water per day with no laundry services or 300 gallons per bed per day including a laundry, was studied to determine its present day validity. A nine-month study of data for five hospitals, three with laundries and two without, showed the formula to be valid for design purposes but unsuitable for estimating projected water consumption. Patient load was shown to be not necessarily correlative with water consumption, and climatic conditions and landscape aesthetics were also factors to be considered. Other variables included the type and scope of services and facilities such as showers. Age of building did not indicate a predictable water use pattern. It was felt that housekeeping policies and procedures rather than patient load were responsible for the variations and that efficiency of operation would probably be the single, largest determinant of water usage. The paper includes five tables showing details of the hospital data collected.

1397. Institution of Public Health Engineers and Great Britain. Department of Health and Social Security. **Symposium: public health engineering for hospitals: some current developments. Report of proceedings, 25th-26th September, 1975.** London, Institution of Public Health Engineers, [1976], 161pp.

The papers given at the conference and reproduced in this volume, together with the discussions on them, were on: the broad view; public health engineering aspects of the Health and Safety at Work Act 1974; design concepts—criteria, installation standards and spatial needs; research on hospital drainage design at Brunel University; pollution; solid waste disposal; kitchens and catering; co-ordination of building engineering services; and drainage—the way ahead.

EQUIPMENT, FITTINGS, FURNITURE

EQUIPMENT GENERALLY

1398. BRITISH STANDARDS INSTITUTION. **Mobile infusion stands.** (BS 3619:1976) London, British Standards Institution, 1976, 4pp.

This standard specifies the basic requirements relating to materials, dimensions, construction and electrical safety precautions of mobile infusion stands for use in hospitals and of infusion poles for attachment to hospital beds and other equipment. Three diagrams are included.

MEDICAL EQUIPMENT

1399. SAYERS, B. **The use of quantitative reliability techniques in the design of medical equipment.** *Hospital Engineering*, Stevenage, 1976, June, vol. 30, pp. 3-7.

A quantitative approach to the reliability of medical equipment is outlined using a simple patient alarm system as an example. The normal reliability requirement of medical equipment depends upon the use to which that equipment is put. The accuracy attainable in a predictive assessment is indicated, and typical failure rates for components and equipment are given. The limited work that has been carried out on the reliability assessment of medical equipment indicates a very real need for this work to be extended as rapidly as possible. Two methods of determining the reliability requirement are outlined. If price is no guide line to reliability then the predictive assessment method enables true comparisons to be obtained between various equipment as early as the design stage. Valuable information on critical areas of reliability is given, and a reasonably accurate figure for failure rate can be obtained before the equipment is put to use.

SURGICAL EQUIPMENT

See Abstract Nos. 1484, 1486

STAFF GENERALLY

1400. HIESTAND, D. L. and OSTOW, M., editors. **Health manpower information for policy guidance: report of a conference sponsored by Conservation of Human Resources, Columbia University.** Cambridge, Mass., Ballinger, 1976, xiv, 149pp. £7.00

In 1973 Conservation of Human Resources, Columbia University, undertook to develop an institutional model of health manpower. In 1974 it agreed to extend its efforts to develop such a model by exploring the relationship between improved information on manpower and health policy. This conference was held so that representatives of the health professions, education, health care systems and government could provide and evaluate information to which they had special access bearing on changes—the demand, supply and use of health manpower. This was considered to

be a desirable first step in testing the hypothesis that more current data, competently analysed and disseminated, could contribute to improved decision-making by public and private institutions. The 11 papers presented are reproduced together with introductory and concluding chapters, a summary of the conference discussion, and an overview of the critical issues.

STAFF COMPLEMENTS

See Abstract Nos. 1493, 1512

RECRUITMENT

See Abstract No. 1424

SALARIES AND SUPERANNUATION

See Abstract No. 1433

STAFF MANAGEMENT

1401. BAUMGARTEN, J. Fehlzeiten im Krankenhaus Ursachen, Folgen und Möglichkeiten der Reduzierung. **[Causes and consequences of and possibilities of reducing absence from work in the hospital.]** *Krankenhaus Umschau*, Kulmbach, 1976, July, vol. 45, no. 7, pp. 523-524, 527-528.

Absence from work, from whatever cause, helps to increase hospital costs and is a factor which must be considered when costs are under discussion. It has been estimated that normal leave, illness (including that of members of an employee's family), and maternity alone represent a 15 per cent loss of nurses' time in a university hospital in Western Germany. Absence from all causes, whether justified or not, amounted to 20 per cent among nurses in the eye department of the Marinz University Hospital. A detailed study of absence from work among laundry staff at the same hospital showed 21 per cent absence from all causes in 1970 and 25.1 per cent in 1974. Among measures suggested for reducing absenteeism are the following: improvement of subjective and objective working conditions; introduction of team work with job evaluation; improvement of the management structure and promotion prospects; better training opportunities; improved structure for hours of work; and avoidance of authority conflicts.

STAFF RELATIONS

1402. BADERSCHNEIDER, E. R. and MILLER, P. F., editors. **Labor arbitration in health care: a case book.** New York, Spectrum, 1976, xxvii, 323pp. £12.00

In August 1974 the National Labor Relations Act was extended to cover all private, profit and non-profit, health care facilities in the United States. This volume presents 37 cases taken to arbitration under the Act; each case selected relates to some unique point about labour relations in the health services.

STAFF TRAINING

See also Abstract Nos. 1406, 1407, 1412-1417, 1421, 1423

1403. WILSON, C. **Hospital-based supervisory training.** *Dimensions in Health Service*, Toronto, 1976, June, vol. 53, no. 6, pp. 46-48.

Management courses for hospital administrators are frequently considered irrelevant since they are industry-based and consider industry as the epitome of management. Management schemes are also expensive and non-productive as far as hospitals are concerned. Courses should be designed to support whatever methods are used in the hospital, taking examples from the hospital itself. The management course at Toronto General Hospital lasts for 12 weeks and is held twice a year for a group of supervisors drawn from the hospital and neighbouring hospitals. The course is outlined. A 60-page supervisory skills manual and assignment work form an integral part of the course together with the day-to-day work in the departments. The experience of the students benefits communications in the hospital since most develop a new appreciation of the size and complexity of the modern hospital.

STAFF WELFARE

See also Abstract Nos. 1461, 1463, 1466, 1485

1404. GRÜNEWALD, E. Psychohygiene am Arbeitsplatz im Krankenhaus. **[Psychohygiene for hospital staff.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, June, vol. 17, no. 6, pp. 331-334, 337.

Psychohygiene at work is defined as 'the study of all the personal, social and organizational conditions which enable the worker to maintain mental health and develop optimally according to his needs'. As far as the hospital is concerned the important factors are staff structure and social role; communication; individual and group conflict; inter- and intra-structural conflict; conflict among medical staff; conflict among nursing staff; and co-operation between groups and its difficulties. While nurses have some instruction on these points the same cannot often be said for medical and administrative staff for whom they are equally important. There is need for courses for administrators to pay more attention to psychohygiene in order to improve the climate of work in hospitals.

1405. HARBOTTLE, E. A., PARKER, R. P. and DAVIS, R. **Radiation doses to staff in a department of nuclear medicine.** *British Journal of Radiology*, London, 1976, July, vol. 49, no. 583, pp. 612-617.

Results of routine film monitoring and whole-body counting of staff working in the nuclear medicine department and associated sections of the physics department at the Royal Marsden Hospital (Surrey Branch) are presented for the period 1972 to 1975 inclusive. Selected working areas were also monitored by placing film badges in appropriate positions for two-week periods, on radioisotope dispensary staff, medical staff and radiographers. The results suggest that exposure to staff in the nuclear medicine department is below 220 mrad per person per year, and below 1,000 mrad in the radioisotope dispensary. An important factor in the exposure of radiographers is the

time they spend close to patients. It was also found that the finger dose to doctors giving injections (5,000 intravenous injections of radionuclides are given each year by the medical staff in the department) may give rise to concern unless the task is shared.

SPECIAL CLASSES OF STAFF

ADMINISTRATIVE AND CLERICAL STAFF

1406. EVEREST, P. **Clerical support services in schools of nursing.** *Nursing Times*, London, 1976, June 10, vol. 72, no. 23, occasional papers, pp. 81-84; June 17, vol. 72, no. 24, occasional papers, pp. 85-87; June 24, vol. 72, no. 25, occasional papers, pp. 89-92; July 1, vol. 72, no. 26, occasional papers, pp. 93-96; July 8, vol. 72, no. 27, occasional papers, pp. 97-99.

A study was undertaken in mid-1975, based on the schools of nursing in the South East Thames region, to investigate by job evaluation the adequacy of clerical support services to nurse teachers and the validity of the method of allocating the numbers and grades of clerical staff in the light of the extended role of schools of nursing and planned future developments in nurse education. Using a task inventory method of analysis eight clerical functions common to all nursing schools were identified and role specifications prepared and graded. A model clerical structure with in-built flexibility to match the individual characteristics of each school was drawn up. A six-step plan is offered as a logical approach to achieving an effective and economic clerical support service designed to suit the larger schools of nursing, in anticipation of the implementation of the Briggs report.

MEDICAL STAFF

See also Abstract No. 1433

1407. ROYAL COLLEGE OF GENERAL PRACTITIONERS. **Educational needs of doctors working in community hospitals: a report prepared for the Education Committee of the Royal College of General Practitioners by a working party from the Thames Valley Faculty.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1976, June, vol. 26, no. 167, pp. 461-465.

Wherever new community hospitals are built local general practitioners within the area will have to broaden their range of responsibility, thus creating new educational requirements. The basis for the community hospital care concept is outlined. The content of the learning requirements for the general practitioner are considered under the headings of: (i) organization; (ii) post-operative care; (iii) management of the acute patient; (iv) rehabilitation; (v) the long-stay patient; and (vi) care of the dying. The educational programme should be established at the same time as the opening of a community hospital. Often general practitioners and trainees can be attached to an existing community hospital to learn the role of the general practitioner within the community hospital team and his relationship with local specialist units.

NURSING STAFF

See also Abstract Nos. 1406, 1428, 1479, 1512, 1516

1408. FERGUSON, M. C. **Nursing at the crossroads. Which way to turn? A look at the model of a nurse practitioner.** *Journal of Advanced Nursing*, Oxford, 1976, May, vol. 1, no. 3, pp. 237-242.

Cues for appropriate changes in nursing care and organization can be detected from the immediate socio-political environment. A historical perspective of the developments in nursing care traces the organization and the split between technology and care. The role of the nurse practitioner, developed in the United States in the early 1960s is outlined; this new role may return to patient-centred planning of care whereby the nurse is able to assess patients' needs. The model is considered in the light of nursing redefining its role vis-à-vis present day social needs of health care delivery systems.

1409. ROPER, N. A **model for nursing and nursology.** *Journal of Advanced Nursing*, Oxford, 1976, May, vol. 1, no. 3, pp. 219-227.

A study using the case-study approach for 744 patients was carried out in the wards of a general, a psychiatric and a maternity hospital, and in the 12 community districts used by one school of nursing for allocation of its general student nurses. The study was necessary since there is now confusion between the nature of nursing and where students should practise. A model for nursing was developed based on the four components from the model of living: daily living; preventing; comforting; and seeking. A definition of the objectives of nursing was produced which could help the nursing profession portray a more relevant image rather than the traditional bedside image. The application of the model could: help produce research-minded nurses; be used in the development of a practical and theoretical syllabus of nursing; be used for rating a patient's dependence/independence for each activity of daily living; be used as a nursing plan; reduce discrepancy between theory and practice; and help the profession make overt its characteristic approach to its subject and thus help nursing develop as a discipline.

1410. ROYAL COLLEGE OF NURSING. **New horizons in clinical nursing: the report of a seminar held at Leeds Castle, Kent, 14-17 October 1975.** London, Royal College of Nursing, 1976, iv, 53pp. £1.00

This seminar presented the opportunity for a small group of nurses to meet together to assist in resolving some of the issues which impede the introduction of the new grade of clinical nurse specialist. The report presents summaries of the papers given on the need, American experience, Canadian experience, an English viewpoint, role relations, specialists in practice, training the specialist, and future direction. Also included are: the specific questions considered by the seminar, with answers, a consensus of the views expressed and the report of the Royal College of Nursing Working Party on the Clinical Nurse Consultant.

1411. KILTY, J. M. **Can nursing research learn from educational research?** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 2, pp. 97-102.

There are similarities in the provision for education and health: both are basic to the maintenance and development of society, and fundamental to the dignity of the individual. The resources distributed to each field are, however, limited and considered inadequate by those who see what might be achieved with greater resources. An analysis of research in general and the methods involved is given. Educational research methods are outlined and these are applied to nursing research. The eight stages involved are: (i) problem awareness; (ii) development of a research rationale; (iii) identify those who will be affected by the results of research; (iv) develop research design; (v) research implementation; (vi) dissemination of results and reports; (vii) supplementary discussion; and (viii) need for adequate follow-up of the use of the results of research in decision making. Research designs must also attend to the problem of altering the attitudes of those who have invested a professional lifetime in 'tried and tested' practices.

1412. LONG, P. **Judging and reporting on student nurse clinical performance: some problems for the ward sister.** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 2, pp. 115-121.

An assessment form for reporting on student nurses' progress was studied in 23 general hospitals selected by random sampling. A total of 829 sisters were involved, 196 being interviewed and 633 completing questionnaires. The results of the study were analysed, 57 per cent of all sisters had trained student nurses for seven weeks or less, and 68 per cent of sisters in general were less than satisfied with the amount of contact they had with learners. The study suggests that the form is seen as an improvement on other current assessment methods. Criticisms are ambivalent but the results support the need to avoid extreme statements. The results suggest that the purpose of the assessment needs clarifying and more contact is needed between nursing staff and students. The introduction and organization of assessment should be reviewed as this may be more useful than limiting studies to the construction of instruments.

1413. MAYR, S. Die Rolle des Unterrichtenden im Rahmen der pflegerischen Ausbildung. **[The role of the instructor in nurse training.]** *Deutsche Krankenpflegezeitschrift*, Stuttgart, 1976, July, vol. 29, no. 7, pp. 388-391.

The author, a nurse tutor in Western Germany, discusses the varying roles of those who take part in the training of nurses in that country. They divide into three categories: (i) qualified nurses working in different areas in the hospital who help with the students' practical work although they are not trained as tutors; (ii) nurse tutors; and (iii) doctors and other experts who teach their special subjects. An ideal situation, which at present has been realized to only a very limited extent in Western Germany, would be for the nurse tutor to take part in the practical training of students on the wards as well as in the classrooms. The doctors and other experts who take part in nurse training are specialists rather than tutors. What is needed is nursing research which would study the possibilities and limitations for both those who instruct and those who are taught.

1414. SIMS, A. **The critical incident technique in evaluating student nurse performance.** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 2, pp. 123-130.

A study aimed at making a preliminary examination of the practical problems of using the critical incident technique was carried out on 276 sisters or staff nurses from eight general hospitals. Two methods of classifying examples of effective or ineffective nursing were examined, and the second system using the chi square and rank order statistics was used. The classification system involved 26 categories falling under five main headings as follows: (i) the nurse's ability to recognize and meet the emotional needs of patients and relatives; (ii) the nurse's ability to anticipate and alleviate physical discomfort and incapacity; (iii) the nurse's acceptance and understanding of her role as part of a team; (iv) the nurse's ability to follow general procedures; and (v) the nurse's ability to relate observations to her knowledge of the patient and make inferences on the basis of this. The use of the critical incident technique presents problems to the researcher in gaining nurses' acceptance of its value and understanding of its purpose, although these problems can be overcome by careful explanation of the techniques involved. It is suggested that a study of the content of the incidents in total is more feasible than producing a single classification for each incident. Data obtained in this way can become the basis for further studies.

1415. WARCABA, B. **An experimental scheme in nurse education.** *Journal of Advanced Nursing*, Oxford, 1976, May, vol. 1, no. 3, pp. 243-252.

A pilot modular system of nurse training was introduced at St. Crispin and Princess Marina Hospitals' School of Nursing, Northampton, in 1972. The principles of the modular system are described and its advantages over the conventional teaching approach are outlined. Teaching and learning strategy is readjusted, needs and objectives are redefined, and units can be replaced when they no longer serve current needs. The system is flexible enough to adapt to local needs, and the scheme could be successfully implemented without incurring additional expense. Team responsibility for the education of staff is stressed. There is greater interaction between the staff of schools of nursing and wards have better communication and relationships. Modular systems need a great deal of planning but the scheme has proved to be successful and offers scope and potential for future developments.

1416. WILLIAMSON, J. A., editor. **Current perspectives in nursing education: the changing scene.** St. Louis, Mosby & London, Kimpton, 1976, ix, 188pp. £6.85

Following an historical analysis, 15 chapters in this volume examine and discuss current issues and perspectives in nursing education in the United States. A final chapter describes nursing education in Western Germany.

1417. BERGMAN, R., GRIEF, L. and OZER, S. **The practicum—a learning experience in integration and change.** *Journal of Advanced Nursing*, Oxford, 1976, May, vol. 1, no. 3, pp. 197-208.

A longitudinal learning experience required in the post-basic baccalaureate nursing programme at Tel Aviv University, Israel, is described. The 'practicum' developed

from the need to help students integrate studies, apply theory in practice and to function as change-agents. The practicum lasts for four terms and covers: (i) theories of change, experiences in the change in nursing, selection of problem and review of related literature; (ii) analysis of selected problem; development of a plan for change; (iii) implementation of the plan; and (iv) evaluation. An assessment of the practicum by students and graduates revealed several problems, together with suggestions for improvement. The overall favourable reaction to the scheme confirmed its value as a training method.

1418. McGILLOWAY, F. A. **Dependency and vulnerability in the nurse/patient situation.** *Journal of Advanced Nursing*, Oxford, 1976, May, vol. 1, no 3, pp 229-236.

The situations of nurse practitioner and patient and their relationships within the wider settings of nursing practice are considered. The ideal type of nurse/patient process is considered ignoring substandard deviant practices. The results revealed that: (i) the patients' dependency places him in a vulnerable situation; and (ii) his situation is such as to make rational judgment difficult for him. The patient can be exposed to technical incompetence and a wide range of irrational practices. The study reveals that even in an ideal nurse/patient situation the patients is 'at risk'. This may have important consequences for the structuring of any practitioner/patient situation.

1419. OAG, D. **The nurse's role in the dialysis unit.** *Nursing Times*, London, 1976, June 17, vol. 72, no. 24, pp. 926-928.

The main function of most haemodialysis units in Britain is managing those patients able to be trained for home dialysis. Long-term hospital dialysis, limited care units and transplantation are alternative methods of care. The change in the role of the nurse from the technicalities of the dialysis procedure to a supervisory or 'consultant' position is outlined. The needs of patients with acute renal failure in the hospital and in the home training situation are quite different. Reassurance and teaching are required and at all times the rapport between patient and nurse must be maintained. Problems of the initial introduction to home haemodialysis are outlined. It is suggested that staff should be physically and psychologically stable since: (i) the patient is dependent on the unit and its nurses for his life unless he has a successful transplant; (ii) the patient has to adjust to the concept of being responsible for his own treatment; (iii) nurses involved in teaching must learn how to teach; (iv) a full understanding of the patient and family circumstances is required; (v) each patient has to adjust to the restrictions of time spent on dialysis and the related preparation and cleaning-up; and (vi) there is a need for patients and staff to accept new developments in technical equipment. The role of the nurse is both demanding and psychologically exhausting, but the team of nurses in the unit contributes to total life-long patient care.

1420. WINTER-v. LERSNER, C. Vom Selbstverständnis der psychiatrischen Krankenschwester und des psychiatrischen Krankenpflegers. **[Self-realization of the psychiatric nurse.]** *Deutsche Krankenpflegezeitschrift*, Stuttgart, 1976, July, vol. 29, no. 7, pp. 373-377.

This paper outlines the new tasks of the psychiatric nurse which have resulted from the substitution of treatment and rehabilitation in place of custodial care. As far as

in-patients are concerned the nurses' duties fall into five categories: maintaining a 'therapeutic attitude'; organizing a therapeutic environment; group work with patients; team work with other members of the therapeutic team; and medical and technical duties. In addition to the care of in-patients the psychiatric nurse is also concerned with patients living outside the hospital or in the community. Their work in day hospitals, night hospitals, out-patient departments and within the community is also described.

1421. WOLFANGEL, I. Die Notwendigkeit der Weiterbildung zur Fachkrankenschwester/zum Fachkrankenpfleger für Psychiatrie. **[The need for post-basic training in psychiatry for nurses.]** *Deutsche Krankenpflegezeitschrift*, Stuttgart, 1976, July, vol. 29, no. 7, pp. 379-381.

The training of a registered nurse in West Germany does not include adequate instruction in psychiatric nursing and, especially in view of current developments in treatment and rehabilitation, additional training is necessary. The course for nurses in the psychiatric department (141 beds) of the Stuttgart Civil Hospital is described. Those taking part must be State registered nurses with at least six-months' post-qualification experience. The course begins in October, is held on one day a week and extends over two years. The 300 hours theory and 200 hours practical training cover the following subjects: principles of psychiatric medicine; sociology and psychology; principles of therapeutic nursing; neurology; and nursing, professional matters and law. Practical instruction is given not only in the psychiatric department but also in acute and long-stay wards, the psycho-geriatric department, day and night hospitals, sheltered workshops, drug centres and half-way homes. There is a final examination and a diploma in psychiatric nursing.

1422. WILLIAMS, P. **The future of mental handicap nurses.** *Nursing Mirror*, Sutton, Surrey, 1976, June 17, vol. 142, no. 25, pp. 67-68.

In the United Kingdom there are 20,000 'mental handicap' nurses constituting the largest group of professional specialists in mental handicap. The diversity of roles and characteristics among mental handicap nurses is outlined. Their future requires greater identification with other branches of nursing since links formed may be important factors in the motivation of many nurses for entering and continuing with this work. Some nurses view changes that have occurred in recent years as detrimental to their role and status; of particular concern is the influx of other professions. The problem of the use and misuse of the term 'nursing' is outlined. There is also a feeling that nurses are subject to intense and unjustified criticism reflecting a further problem of identification. The main problems in the hospital system are administrative, financial and political, which are separate from the problem of the future of the mental handicap nurse. However nurses will be required to reconsider their identification with the nursing profession as a whole and with the hospitals. Mental handicap nurses will need support during the process of change and development of an effective, comprehensive, community-based service in which they will form a vital part of a supportive service for all mentally handicapped people whether at home or residential.

1423. KILTY, J. M. and POTTER, F. W. **Nursing education research management: establishing priorities and optimizing the use of resources: a methodology.** *Journal of Advanced Nursing*, Oxford, 1976, March, vol. 1, no. 2, pp. 163-172.

An evaluative research project was carried out into the role and preparation of the midwife teacher for the Royal College of Midwives. Four main heads were considered: (i) recruitment, selection and preparation of the student midwife tutor prior to commencing the Midwife Teachers Diploma (MTD); (ii) the course aims and objectives; (iii) the methods used in training establishments; and (iv) assessment and examination procedures in the MTD. The methodology used to establish priorities to resolve what was an open-ended brief into a research project with limited resources are outlined.

OTHER PROFESSIONAL AND TECHNICAL STAFF

See Abstract Nos. 1487, 1489

ANCILLARY STAFF

1424. CITY UNIVERSITY. GRADUATE BUSINESS CENTRE. **The recruitment and retention of hospital ancillary staff: a review of the literature and bibliography.** London, City University Graduate Business Centre, 1976, [75]pp.

The Graduate Business Centre is undertaking a project which seeks to examine and to indicate possible solutions to the problems of recruiting and retaining ancillary staff. This literature review was prepared as an important prerequisite of the fact finding and diagnosis stage. The review is in four parts: introduction; recruitment; retention; and methods of improving ancillary work in hospitals. The appended bibliography on ancillary staff and related topics contains 323 references.

ORGANIZATION AND ADMINISTRATION

See also Abstract Nos. 1403, 1441, 1494

1425. MCLAUGHLIN, C. R. and others. **Management uses of the Delphi.** *Health Care Management Review*, Germantown, Md., 1976, vol. 1, no. 2, pp. 51-62.

The Delphi technique involves the use of successive questionnaires and was developed as a way of predicting future events. This paper is less concerned with its uses as a predictive device than as a simple and efficient instrument for problem solving and planning. Five potentially useful applications of Delphi in health organizations are described: prediction; survey of views and attitudes; simplified problem-solving; air controversial views; and strategy formulation. A checklist of critical activities in the use of the Delphi technique is given.

1426. MORALES GONZALES, A. and others. Desconcentración de servicios: ensayo en una unidad médica del Hospital General de México Secretaria de Salubridad y Asistencia. **[Decentralization of services: trial in a medical unit of the General Hospital of the Mexican Secretariat for Health and Assistance.]** *Estudios sobre Hospitales*, Barcelona, 1976, no. 77, pp. 31-32, 34-36.

'Decentralization' implies juridical and organic autonomy and legal authority. 'De-concentration', on the other hand, is characterized by a department being dependent on and having hierarchical links with the central authority, but having limited technical and administrative autonomy, powers of decision, appointment, and discipline, and direct control of its own budget. The authors describe in general terms a successful project in the General Hospital where, after careful preparation, 'de-concentration' was applied to the 220-bed department of obstetrics and gynaecology. As a result the central administrative staff's work load was considerably lightened and, in the department itself, problems could be solved and decisions taken more rapidly, and the staff had a much greater sense of participation and responsibility.

1427. REVANS, R. W. **Action learning in hospitals: diagnosis and therapy.** Maidenhead, McGraw-Hill, 1976, xii, 200pp. £4.50

Action learning is both to understand and to achieve as a result of trying out, perhaps more than once, some suggestion for reaching an objective. This volume is in five parts: (i) a revised version of *Standards for Morale* [see *Hospital Abstracts*, Vol. 4, Abstract 977], which recommended experiments in action learning to improve hospital effectiveness; (ii) a report on the Hospital Internal Communications (HIC) Project, in 10 London hospitals which arose out of this recommendation, [see also *Hospital Abstracts*, Vol. 12, Abstracts 372 and 963], (iii) an evaluation of the HIC project; (iv) some progenitors and progenies of the HIC projects; and (v) development in the health services—action studies, participation and involvement.

1428. VIVALSO FERNANDEZ, L. El hospital durante la noche. **[The hospital during the night.]** *Estudios sobre Hospitales*, Barcelona, 1976, no. 77, pp. 37-41.

The author reviews the various environmental, physical, medical, administrative, and security factors which affect the efficient working of a hospital at night, and discusses at length the role of the nursing staff. The night staff is too often inadequate both in numbers and in training because of shortages of nurses or of funds. The number of night staff will vary with the intensity of care required. Nursing supervisors should do an occasional evening and night shift in order to be fully conversant with the specific problems of the hospital at night. The author enumerates the duties of the night nurse and suggests that there should be an overlap of half an hour between night and day shifts and between evening and night shifts so that a full report on each patient can be made. The same nurse should be on duty for five consecutive nights or days. Unnecessary noise at night should be eliminated.

1429. KALUZNY, A. D. and others. **Predicting two types of hospital innovation.** *Hospital and Health Services Administration*, Chicago, 1976, vol. 21, no. 2, pp. 24-43.

Two types of innovation, health care programmes to improve non-acute services and administrative programmes to improve organizational efficiency, are studied in

relation to the following variables; organizational size, organizational stock, centralization, changing values of the administrator, and organization. Data for the study are derived from a sample of 68 acute general hospitals in New York State (excluding New York City) and 29 representatives of planning agencies, hospital associations, Blue Cross plans and local health departments. The results indicate that depending upon how innovation is measured, there is a degree of commonality among variables that predict the implementation of administrative as well as health care programmes. Staff training and organization were common to both types of innovation. There were also outstanding differences: formalization was only a relevant variable in health service implementation; and size of organization was a critical variable only in the implementation of health services. The implications of these findings are discussed.

1430. WEISBORD, M. R. **Why organization development hasn't worked (so far) in medical centers.** *Health Care Management Review*, Germantown, Md., 1976, vol. 1, no. 2, pp. 17-28.

Organization development, which originated in industry, has done much good in that setting, but it often multiplies the problems of a health care system rather than solving them. Three major reasons for this are suggested: (i) medical centres have few of the formal characteristics of industrial firms; (ii) physicians are socialized to a form of rational, autonomous, specialized, expert behaviour, which is antithetical to the organization of any but the most narrow individualized pursuits; and (iii) medical centres, therefore, require three different social systems, not one as in industry. The links are extremely tenuous among the 'task' system which administrators manage, the 'identity' system which supports professional status and the 'governance' system which sets standards.

1431. SJUKVÅRDENS OCH SOCIALVÅRDENS PLANERINGS- OCH RATIONALISERINGSINSTITUT. Utveckling av klinikens administration—tre fallstudier. **[Development of hospital departmental administration—three case studies.]** (Spri rapport 3/76) Stockholm, Spri, 1976, 22pp.

This report deals with results of experiences of studies of the administration of a department of gynaecology and obstetrics and of two departments of surgery. The emphasis is on a description of the procedure used in the studies, the aim of which was to establish the principle of 'self-improvement' as a target. The report also includes some general reflections on the development of departmental administration. [This abstract has been prepared from an English summary of the report.]

ECONOMICS OF HOSPITAL MANAGEMENT

See also Abstract Nos. 1394, 1395, 1445, 1474, 1475

1432. JOHNSON, E. A. **Puzzlement for hospital planners.** *Hospital and Health Services Administration*, Chicago, 1976, vol. 21, no. 2, pp. 64-72.

This paper discusses the problems faced by hospital planners in deciding whether it is wise or unwise to duplicate existing services. Seven elements of concern apply whether internal or external expansions are being considered: (i) operating cost;

(ii) capital investment; (iii) technological process; (iv) organizational processes; (v) time perspective; (vi) human behaviour; and (vii) the acceptability of the new service in the market place. The application of these elements when considering duplicate services is outlined.

RUNNING COSTS

1433. LEVESON, I. and RODGERS, E. **Hospital cost inflation and physician payment.** *American Journal of Economies and Sociology*, New York, 1976, April, vol. 35, no. 2, pp. 161-174.

The hypothesis that physicians use control over hospital resources to maximize their net revenue is examined to determine whether this leads to more rapid growth of hospital costs. The revenue maximization hypothesis is studied in relation to theoretical and empirical studies. Comparisons of increases in hospital costs per patient day are made between health maintenance organizations with salaried practices and medical foundations with fee-for-service. International differences in hospital cost inflation comparing the rate of increase of hospital costs per day with the method of physician payment are explored in an appendix. An explanation of the relative importance of the bed availability effect is that physicians obtain much of the gains for the shortage by charging higher fees for access to hospital beds which are available. Frequently a small proportion of physicians account for a large proportion of admissions to a given hospital; the concentration of patients among doctors and persistent low occupancy could be the result of the income maximizing behaviour of the controlling staff. The implications of a hospital revenue maximization model and control issues require further analysis.

BED OCCUPANCY, ECONOMIC USE OF BEDS

See also Abstract Nos. 1502, 1508, 1517

1434. GAUS, C. R., COOPER, B. S. and HIRSCHMAN, C. G. **Contrasts in HMO and fee-for-service performance.** *Social Security Bulletin*, Washington, 1976, May, vol. 39, no. 5, pp. 3-14.

A study of various aspects of 10 health maintenance organizations (HMO) was compared with 10 matched populations receiving care from the fee-for-service system of Medicaid. Differences in use between the various types of HMOs were also examined, grouped according to organization and provider payment. Four areas were studied: (i) involvement selectivity; (ii) hospital and ambulatory care use; (iii) accessibility of care; and (iv) satisfaction. The only significant difference between the two systems was in hospital use. Group practice HMOs had significantly lower hospital use than the fee-for-service groups, but foundation HMOs did not. Capitation payment to an HMO alone does not appear significant enough to produce major changes in use. For all the other variables (previous health status, ambulatory care use including preventive care, accessibility, and satisfaction) the two groups were seen to be similar. Reasons for the differences and similarities are suggested but more research is needed.

1435. HALPERIN, W. and NEUHAUSER, D. **MEU: measuring efficient utilization of hospital services.** *Health Care Management Review*, Germantown, Md., 1976, vol. 1, no. 2, pp. 63-70.

MEU is a simple way of measuring efficient utilization of hospital services. It is concerned with that part of the patient's stay that is under the control of the hospital and physician, i.e., depends on the tests and treatment required. This paper describes how MEU works and shows how it is used by comparing pairs of hypothetical cases with similar key inputs, and with different key inputs. The use of MEU to compare average length of stay in four hospitals and to compare hospitals in the United States and Sweden is outlined.

1436. POLLIACK, M. R. and SHAVITT, N. **Hospital admission rates and the primary health team.** *Journal of the Royal College of General Practitioners*, Edinburgh, 1976, June, vol. 26, no. 167, pp. 420-426.

The use of hospital beds was studied for one year in an Israeli general practice run by a co-ordinated team composed of family doctor, nurse and medical social worker. Admission rates and mean duration of stay in hospital are analysed. The results revealed that the study population used only half as many hospital beds when compared with national rates in Israel. This is considered to be the result of planned co-ordinated comprehensive medical, nursing and social services for patients suffering from long-term illness.

APPOINTMENT SYSTEMS, WAITING LISTS

1437. CULYER, A. J. and CULLIS, J. G. **Some economics of hospital waiting lists in the NHS.** *Journal of Social Policy*, London, 1976, July, vol. 5, no. 3, pp. 239-264.

This paper concerns waiting for admission, and focuses on three aspects of this persistent problem: (i) the merits or otherwise of rationing health care through waiting as opposed to pricing; (ii) the interpretation of waiting lists as a proxy for excess demand in the 'market' for in-patient care (including a critical examination of the logic and empirical evidence underlying the view that in-patients pay a time price for their admission); and (iii) the question of an admissions-index to replace the largely inconsistent admission criteria currently used. In particular the construction of an index incorporating the values of fairness and efficiency is discussed and the following characteristics suggested for inclusion: (i) time already spent on waiting list; (ii) urgency based on expected rate of deterioration of the patient's condition; (iii) urgency based on the patient's health status; (iv) urgency based on the 'social productivity of the patient' and the number of economic dependants; and (v) urgency based on other social factors. The conclusions are: (i) emphasis should be placed on waiting times rather than lists; (ii) systematic admissions criteria should be developed; and (iii) such criteria should incorporate social judgments which to date have been ignored or dominated by clinical judgments.

DATA PROCESSING

See also Abstract Nos. 1444, 1447, 1453, 1488, 1495-1497, 1499-1501

1438. BARBER, B. and others. **Some problems of confidentiality in medical computing.** *Journal of Medical Ethics*, London, 1976, June, vol. 2, no. 2, pp. 71-73.

Patients have a right to believe that any information about themselves will be regarded as confidential, but occasionally that confidence is broken. With this problem in mind the London Hospital computer project established two principles: (i) in terms of confidentiality the computer system should be as effective as the previous manual system; and (ii) the measures used to further confidentiality of the system should not be so cumbersome as to destroy the advantages of the system. The system is a widespread real-time communication network, each ward has its own visual display unit, and there are currently 59 terminals in the hospital. The system is described in outline. The system includes constraints on the distribution of information and these measures are outlined. In two areas it was felt that free access on displays would infringe the first principle, consequently in the computer building and the laboratories there are new special codes for selected staff. The principles behind the decisions and constraints are outlined.

1439. KOLLER, S. and WAGNER, G., editors. Handbuch der medizinischen Dokumentation und Datenverarbeitung. **[Handbook of medical documentation and data processing.]** Stuttgart & New York, Schattner, 1975, xl, 1485pp. DM540.00

A comprehensive review of the subject comprising 82 papers in six sections: general background; general methodology of documentation of medical data; documentation in the hospital; medical documentation outside the hospital; documentation of medical literature; and documentation as a discipline. The section on the hospital, which comprises over two-fifths of the volume, contains papers on: basic documentation; special documentation; medical records in various specialties; other clinical applications; and the organization of data processing in the hospital.

1440. ÜBERLA, K. Datenverarbeitung in der Medizin am Beispiel Grosshadern. **[Data processing in medicine—Grosshadern Hospital as an example.]** *Medizinal-Markt: Acta Medicotechnica*, München, 1976, July, vol. 24, no. 7, pp. 239-240.

Electronic data processing at the Grosshadern Hospital comprises the following three systems with data bank components: ISIS, for current patient data, administrative tasks and records; SAVOD, for interactive evaluation of mass data (primarily for scientific evaluation); and MINDIUS, a participator system for medium-sized data collections, with flexible dialogue data recording (primarily for individual doctors' reports and individual cases). The three systems can be selectively combined for the exchange of data.

1441. LAYCOCK, E. P. and GROVE, S. **Administrative perspectives regarding computer installations.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 46-48.

The basic terms and concepts required by managers before applying a computer to an existing setting are outlined. The hardware and software of a computer are described, and the six major advantages of computer installations are listed. The

existing environment should be analysed before selecting a computer service. The application of the computer to existing work, the costs and alternative methods should be considered. The four basic types of computer service: large installation, mini-computer, leasing and service bureau or commercial time-sharing service are considered with their advantages, disadvantages and associated factors. Once the needs and benefits have been listed a computer service should be selected to meet requirements on the grounds of: costs; the company; the system; and maintenance. There should be a back-up service for the system. Tenders should be given two deadlines: preliminary and final, to allow for discussion of any anomalies. Professional advice should be sought.

SECRETARIAL SERVICES

1442. SCHÖNING, G. von and OLLMANN, H. Programmierte Textverarbeitung im klinischen Bereich. **[Programmed word processing in the clinical field.]** *Medizinal-Markt: Acta Medicotechnica*, München, 1976, July, vol. 24, no. 7, pp. 244-246.

The author describes the programmed text processing system, using automatic typewriters, in use at the Steglitz Hospital (Free University of Berlin) for the preparation of medical letters. The machines used are the IBM automatic MC82 and the IBM automatic MB72 model 4, both using magnetic tape. Two specimen letters are reproduced in the paper.

LIBRARIES

1443. STAUDT, C., HALBROOK, B. and BRODMAN, E. **A clinical librarians' program—an attempt at evaluation.** *Bulletin of the Medical Library Association*, Chicago, 1976, April, vol. 64, no. 2, pp. 236-238.

An experimental scheme at the Washington University School of Medicine Library used clinical librarians to provide information on medical literature to interns and residents. A study of the overall value of the scheme together with the quality of the service provided was carried out. Four methods were used to assess the scheme: (i) in-depth interviews; (ii) questionnaire sent with each literature search; (iii) service offered for residents' reports on alternate months only—during the intervening months the service was available by calling or visiting the library; and (iv) statistics on the use of the service by individual residents. The results revealed that: the total cost of providing the service was $17 per month per resident; the services were used for presenting papers, preparing papers and as teaching tools; and the users would not use the service if they had to pay. The value of the scheme has not been proved, quantitatively or unequivocally, but neither has the usefulness of librarianship in general. Further studies are required to elucidate whether clinical librarianship is a useful service.

MEDICAL RECORDS

See also Abstract Nos. 1439, 1513

1444. METCALFE, D. H. H. **Toward the definition of the problems to be solved in the medical information system.** *Medical Record*, Boston, Lincs., 1976, May, vol. 17, no. 2, pp. 115-120.

Problems in medical information systems are reviewed. Many innovations have been carried out at a superficial level and there are several pitfalls into which these innovations have fallen. The main areas considered are: format and layout; indexing and linkage; retrieval; and motivation. The fundamental problems in medical information systems are outlined. The quality, validity and relevance of the facts must be assessed. An analysis of the formation and use of the structured medical record is offered as a guide for future innovations. The question as to whether interim measures can be taken while fundamental research is going on is posed.

1445. ELZINGA, E. and TUINMAN, H. Mikrofilm, een kostbaar medicijn. **[Microfilm—an expensive remedy.]** *Instelling-Management*, Amsterdam, 1976, June, vol. 8, no. 6, pp. 18-22.

The authors examine the desirability of introducing a microfilm system into a hospital in Groningen. Its purpose would be to reduce the size of documents, to store and retrieve information quickly and to be able to distribute large amounts of information (computer output). Available systems are discussed and illustrated with drawings and diagrams. Advantages would be an approximate 90 per cent saving of storage space, easy accessibility, low risks of loss, damage, fire and theft, uniformity of dossiers, light-weight and flame-resistant materials, easily exchangeable information, clarity of X-ray details, and recovery of silver from X-ray plates. Disadvantages are high investment, exploitation costs, information cannot be read with naked eye, great discipline of organization required, dependence on constant servicing, mutations require more labour, no written additions can be made, less protection of privacy, no legal validity in court, tiring of eyes, and difficult exchange of information with other systems. After calculating the present and future space for storing records in the hospital, the practical and financial aspects of microfilming the medical records, electrocardiograms and X-rays are considered. At a calculated cost of fl.140,000 (appr. £25,600) per year the authors conclude that the disadvantages outweigh the benefits and it would be cheaper to build extra space for conventional storage.

HOSPITAL STATISTICS

1446. GREEN, R. **Statistics and doctors.** *Medical Record*, Boston, Lincs., 1976, May, vol. 17, no. 2, pp. 111-114.

The revised method of presenting statistics to the staff of Ormskirk Health District is outlined. The method used was to ask basic questions and to answer them with tables and graphs. The whole document was published quarterly with one table shown per page. Examples of the questions are: how well are needs being met; how well do we use our resources; what trends are apparent; and what are our shortfalls? In addition to the tables, trends are displayed graphically compared with area or regional figures and staff can ask for more detailed statistics personally.

1447. NORDISKA MEDICINALSTATISTIKA KOMMITTÉN. **Computer-based patient statistics. Part one: hospital in-patients, recommendations submitted by a working party within NOMESKO, Stockholm, 1974.** Stockholm, NOMESKO, 1976, iv, 60pp.

This working party was formed to recommend co-ordination of the content throughout the Nordic countries of computerized data processing systems which record medical and administrative data on individual admissions and out-patient attendances. Following an introduction, its report covers: (i) need for Nordic co-operation; (ii) the computer-based patient record systems in Denmark, Finland, Norway and Sweden; (iii) differences in content between the existing systems of in-patient recommendations; and (iv) proposed common Nordic table.

FINANCE AND ACCOUNTING

FINANCE

1448. CLEVERLEY, W. O. **One step further: the multi-variable flexible budget system.** *Hospital Financial Management*, Chicago, 1976, April, vol. 30, no. 4, pp. 34-35, 38, 40, 43-44.

The multi-variable budget system may appear unrealistic in terms of existing budget models since most hospitals have yet to develop and implement a single-variable flexible budget model. A method for developing the system is discussed together with the need to establish accurate estimates for the separate effects of individual variables upon the dependent cost variable. An example is given of the use of existing data to illustrate how the system might be developed, and what level of improved accuracy could be expected. The multi-variable flexible budgeting approach may prove more accurate than many of the existing approaches and should be worth the extra cost and effort for its development and implementation.

1449. IVANCEVICH, R. E. **Expected monetary value new decision tool for capital expenditures.** *Hospital Financial Management*, Chicago, 1976, May, vol. 30, no. 5, pp. 46-51.

By projecting the amount of revenue a new piece of equipment will produce, management can make a more sensible decision on capital expenditure. An example is given of a hospital considering the purchase of a phagoemulsifier for the ophthalmology department. The probability of staff leaving if the equipment is not purchased is assessed together with the expected revenue from cataract surgery. A decision tree is constructed to compare the costs and quantify the various elements and decide whether to purchase the item. The basic techniques developed for use in the commercial field can be applied to decision-making in non-profit hospitals. More sophisticated techniques must be applied to ensure that hospitals use the available funds to their optimum.

1450. ROWLEY, C. S. **Which is best to find cost behavior?** *Hospital Financial Management*, Chicago, 1976, April, vol. 30, no. 4, pp. 18-22, 24-25, 28.

Knowledge of cost behaviour patterns is the first step towards determining financial forecasts and budgets. There are four methods for determining the cost behaviour

patterns: account analysis; graphic analysis; high-low analysis; and least squares regression. In using account analysis it is assumed that a cost is either entirely fixed or entirely variable. Graphic analysis will confirm or contradict this assumption but does not lead to precise estimates of the pattern of cost behaviour because each reader of the graph may see a different pattern of variation. High-low analysis allows comparability between readers by limiting the data points in the analysis to two: highest and lowest value of the activity variable. The least squares regression analysis is the most common method of statistical analysis since it produces precise estimates that may be used to draw a straight line that approximates to the behaviour pattern of the data points. The use of the four methods and their application to a hospital catering department are outlined.

HOSPITAL ACCOUNTING

See Abstract No. 1494

SUPPLIES AND STORES

PURCHASING

1451. LUND, B. **The ordering of surgical appliances.** *Medical Record*, Boston, Lincs., 1976, May, vol. 17, no. 2, pp. 108-110.

A modified system for ordering surgical appliances at the North Tees General Hospital is described. The fitter completes in quadruplicate the surgical appliance order forms supplied by the Department of Health and Social Security instead of a separate specification form. Three copies are sent to the surgical appliance officer and the fourth is retained by the fitter to enable the manufacturer of the appliance to go ahead pending receipt of the official order from the surgical appliance officer. The contractor has three copies of each order and can use them as delivery notes, invoices and office records. Invoices can be promptly submitted and passed for payment. The advantages of the system are: (i) the surgical appliance officer has been relieved of a large amount of routine typing; (ii) the fitters have no extra work as they complete an order form instead of a specification; and (iii) the contractor receives an order without delay and has rapid payment.

STORES

1452. HOUSLEY, C. **Inventory reduction is a financial must.** *Dimensions in Health Service*, Toronto, 1976, June, vol. 53, no. 6, pp. 42, 44.

Cost reduction in hospitals can be implemented by reducing supply inventories. There are two types of inventory, official and unofficial. The official inventory is departmentally controlled and reviewed by the hospitals' auditors, and is mainly found in central stores and pharmacy departments; the unofficial inventory is the vast amount of items which have been given to various units and which receive very little control. Perpetual inventory systems are ineffective as a supplies management indicator because of the incidence of error. To reduce unnecessary inventories, various administrative policies must be formulated. Control of the official and unofficial

inventories will be the responsibility of the supplies department and they should be counted quarterly or not less than semi-annually. Each department should have not more than a two-week supply of unofficial operational inventory. Each department should requisition two weeks' supplies twice a month from the supplies department, and all nursing and related units should be provided with a 24-hour supply trolley exchange system. Stockless purchasing should be used for all departmental purchases whenever possible. All new items should be reviewed and approved by a multidisciplinary standardization committee meeting at least monthly. Recommendations for reducing the amount of inventory which should result in savings in costs and a more efficient supplies service are outlined.

1453. SJUKVÅRDENS OCH SOCIALVÅRDENS PLANERINGS- OCH RATIONALISERINGSINSTITUT. ADB-system för förrådsredovisning. **[EDP system for stock accounting.]** (Spri råd 4.6) Stockholm, Spri, 1975, 38pp.

This publication describes the stock control system designed by Spri to satisfy the need to improve efficiency in stock handling and stock accounting. It has been programmed for the SAAB D22 and is operated by the data centre for county councils. In addition to describing the system and the input and output data, the publication presents examples of the forms used and the printouts and experience of use of the system. [This abstract has been produced from an English summary of the report.]

CATERING, DIETETICS, KITCHENS

HOSPITAL CATERING

See also Abstract No. 1450

1454. HOLMGREN, J. H. **New system speeds food preparation and service.** *Modern Healthcare*, Chicago, 1976, May, vol. 5, no. 5, pp. 68-69.

The catering department of St. Joseph's Medical Center, Wichita, Kan., serves all the 400 beds in the newly-built hospital, the 200 beds remaining in the older facility, 1,300 employees and an active medical staff, as well as 200 students. It has been allocated 22.39 square feet per bed. There is a five-meal plan for patients and meals are cycled every two weeks. The following functional areas are described, pointing out the advantages the newly designed department has to offer: receiving, dry storage, refrigerated storage, production, tray assembly, trolley storage and dishwashing, cafeteria, office and housekeeping.

1455. CLEMENCE, E. **The mystery and mastery of microwave.** *Dimensions in Health Service*, Toronto, 1976, June, vol. 53, no. 6, pp. 32-34.

An alternative for hospitals considering a decentralized system of catering or for institutions already serving pre-plated menu items is the decentralized heating of individual meals in microwave ovens placed on the patient floors instead of centralized heating of large quantities followed by plating and transport to the patient. The advantages of microwave ovens are: (i) rapid cooking; (ii) reduction in the need for equipment sized for peak volume; (iii) use as a rapid heating device of pre-prepared

foods; (iv) to complement conventional cooking equipment; (v) as an alternative to cooking to order and cooking ahead; and (vi) fills the gap between the delivery of small quantities quickly and large quantities slowly. Safety precautions to be taken are outlined. All staff must be fully trained in the use of microwave ovens. The principles of microwave energy are discussed, and possible applications in the hospital suggested. Information is given on general microwave cooking and the nutritive value of food cooked in this way. The two types of systems, centralized and decentralized, are discussed.

1456. SHANNON, M. **The total microwave hospital.** *Dimensions in Health Service*, Toronto, 1976, June, vol. 53, no. 6, pp. 24-26.

Mount Sinai Hospital, Ste. Agathe des Monts, Quebec, a 115-bed extended care facility, reviewed its catering department in 1968. Problems confronting the department were: the layout of the plant; staff; equipment; and kosher requirements. Aims were defined as: (i) provide a widely selective menu for three main meals a day together with three between-meal snacks; (ii) deliver the meals to the service point in a state compatible with accepted bacterial growth limits; (iii) increase productivity; and (iv) improve portion control. Alternative systems were assessed and the 'microwave' system was chosen for evaluation in a pilot scheme. Recommendations for total conversion to a microwave food system were made since: (i) patients were happier with the temperature of food; (ii) the variety could be increased given adequate refrigerated holding capacity; (iii) a reduction of waste due to food assembled in a cold state; (iv) improved portion control resulting from central tray assembly; and (v) productivity would be increased. The system has now been developed to the point at which all patients, staff and visitors are being served food reconstituted by microwave ovens. The kitchen is now operated as a straight shift from Monday to Friday from 0800 to 1615.

FOOD SERVICE

1457. HILL, G. **Insulated servers ease dietary department concerns.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 55-56.

The therapeutic value of hospital meals is vitally important in terms of hospital care, however this must be considered with the cost factor involved in purchasing. Wellesley Hospital, Toronto, used as selection criteria, simplicity and elimination of equipment maintenance when they replaced the eight-year-old hot and cold trolley system used in the food delivery service. The Temp-Rite system uses servers which hold complete meals at the correct temperatures for up to $1\frac{1}{2}$ hours without the use of external heating or refrigeration. Cost savings have resulted from reducing staff numbers from 128.8 full-time equivalents to 118.9 which is expected to be further reduced by five full-time staff. Maintenance and replacement costs are almost non-existent, delivery times are faster and there is more floor space in the kitchens since less equipment is required. Staff reactions are favourable. Replenishment of supplies is carried out automatically. The system has eliminated heavy capital investment, assured budget control, lowered operating costs and provided more attractive meals for the patients.

1458. BEATON-MAMAK, M. **Tray system cuts labor, improves food.** *Dimensions in Health Service*, Toronto, 1976, June, vol. 53, no. 6, pp. 30-31.

The change from traditional catering methods to modern methods of temperature and portion control must be considered when existing equipment has depreciated beyond usefulness. Some hospitals have found the thermal food tray system which keeps food at the correct temperatures for an extended period and provides for easy handling and distribution to be of the most use. Several Canadian hospitals have adopted the system, amongst which are Lady Minto Hospital, Cochrane, Ont., and Wellesley Hospital, Toronto. The system consists of insulated servers which hold complete meals for 1½ hours without the use of external heating and refrigeration. The tray will hold an appetizer or soup, hot entree, side dish, dessert and beverage in reusable or disposable dishes. The servers are covered, stacked and delivered to the patient floors for distribution. An in-service training scheme for staff is provided by the company and the hospital. The overall reaction to the system has been favourable, although negative comments on the system are: (i) dislike by patients of eating from plastic plates; (ii) non-biodegradable dishes; and (iii) problems of heat retention.

LAUNDRIES AND LINEN SERVICE

HOSPITAL LINEN AND TEXTILES

1459. BRITISH STANDARDS INSTITUTION. **Hospital bedding. Part 4. Mattress covers of polyurethane coated nylon.** (BS 5223: Part 4: 1976) London, B.S.I., 1976, 4pp.

This standard specifies materials, dimensions and certain constructional requirements for hospital mattress covers manufactured from polyurethane-coated nylon fabric. Two diagrams and two tables are included.

HOSPITAL DOMESTIC MANAGEMENT

DOMESTIC WORK

1460. Professionele schoonmakers bestrijden bacteriën. **[Professional cleaners combat bacteria.]** *Instelling-Management*, Amsterdam, 1976, June, vol. 8, no. 6, pp. 24-25.

Indisco BV, a Netherlands branch of a West German company, carries out cleaning operations of sanitary installations in hospitals, industrial buildings, canteens, etc. A special team consists of a microbiologist, hygiene specialist, a disinfector and a technical worker. Experienced fitters are employed, specially trained in chemical and mechanical techniques. Indisco BV's laboratories have developed chemicals which remove deposits from sanitary installations and pipes without side effects. After an initial clean an installation is entirely disinfected and a special disinfectant is issued for daily use. A regular maintenance service is then carried out every eight or 12 weeks. Small technical repairs are also undertaken. On request the firm carries out an inspection of any sanitary installation and submits a report with possible suggestions and costs.

HYGIENE IN THE HOSPITAL

HOSPITAL INFECTIONS

See also Abstract Nos. 1471

1461. PIKE, R. M. **Laboratory-associated infections: summary and analysis of 3921 cases.** *Health Laboratory Science*, Washington D.C., 1976, April, vol. 13, no. 2, pp. 105-114.

Published reports, replies to a questionnaire and personal communications are the basis of this analysis of 3,921 cases of overt laboratory-associated infection. Of these 2,465 occurred in the United States and 164 were fatal. Only 64 per cent of the cases were reported in the literature. The analysis revealed that: only 18 per cent of the infections were due to known accidents; and 42 per cent were caused by bacteria, 27 per cent by viruses, 15 per cent by rickettsiae, nine per cent by fungi, three per cent by chlamydiae and three per cent by parasites. It may be significant that fewer infections have been recorded in the past decade than in any of the four preceding decades; possible reasons for this apparent decrease are discussed.

1462. HEMMING, V. G., OVERALL, J. C. and BRITT, M. R. **Nosocomial infections in a newborn intensive-care unit: results of forty-one months of surveillance.** *New England Journal of Medicine*, Boston, Mass., 1976, June 10, vol. 294, no. 24, pp. 1310-1316.

Infection surveillance in the newborn intensive care unit of the University of Utah Medical Center was carried out by a full-time hospital nurse epidemiologist. During this study 1,161 infants were admitted to the unit, and 904 studied. The 24.6 per cent hospital infection rate observed in the unit is higher than the 7.3 per cent rate for the entire hospital. Features that may contribute to the high rate of infection are host factors and environmental factors. Surface infections accounted for 40.1 per cent of the total, pneumonia for 29.3 per cent, bacteraemia for 14.0 per cent, surgical wound infection for 8.1 per cent, urinary tract infection for 4.5 per cent and meningitis for 4.0 per cent. Efforts must be made to prevent infections before they occur, and additional information is required regarding the specific infection risks of commonly used diagnostic and therapeutic procedures in the unit so that more effective control measures may be developed.

1463. POLAKOFF, S. **Hepatitis B in retreat from dialysis units in United Kingdom in 1973: Public Health Laboratory Service survey.** *British Medical Journal*, London, 1976, June 26, vol. i, pp. 1579-1581.

A prospective study of hepatitis in over two-thirds of the haemodialysis units in the United Kingdom has continued since 1968 [see *Hospital Abstracts*, Vol. 12, Abstract 1442 and Vol. 14, Abstract 392]. After the introduction of a control and preventive programme in 1970 there was a decline in the incidence of hepatitis B to 0.3 per cent among patients and 0.1 per cent among staff in 1973. Comparisons with information from other countries suggest that the almost complete elimination of hepatitis B from haemodialysis units in the United Kingdom was due to the preventive scheme.

SOURCES OF INFECTION

1464. WHYTE, W., VESLEY, D. and HODGSON, R. **Bacterial dispersion in relation to operating room clothing.** *Journal of Hygiene*, London, 1976, June, vol. 76, no. 3, pp. 367-378.

Six types of gowns were studied, all of three basic types: a conventional cotton type, disposable types made of non-woven fabric and those of the total-body exhaust system. It was found that the poor performance of the gowns in conventionally ventilated systems was caused by the dispersal of bacterial particles from underneath the gown. In order to overcome this, four types of impervious trousers were tested and it was demonstrated that those made either from Ventile or non-woven fabric would reduce the bacterial dispersion fourfold. The tests were then carried out in an unidirectional-flow operating theatre during total hip arthroplasty, instead of in an artificial environment. The results showed good correlation between the operating theatre and the chamber with the non-woven fabric gown, but the total exhaust system did not perform as well in the operating theatre, possibly due to the contribution from the patient. Values were also obtained for the total number of bacterial particles dispersed by persons during a standard exercise wearing different clothing; a medium count of between 1,000 and 1,500 bacterial particles per minute could be expected, with a range of between 300 and 19,000. This count could be reduced to about 100 per minute if a total body exhaust suit was worn (range 30-400).

1465. BESWICK, F. J., BRANTHWAITE, M.A. and CHADWICK, M.V. **Sepsis in a CPAP system.** *Anaesthesia*, Oxford, 1976, June, vol. 31, no. 5, pp. 658-661.

A survey of 13 patients aged from one day to five years who all required continuous positive airway pressure (CPAP) for periods ranging from one to 23 days was carried out at the Brompton Hospital, London, to measure the incidence of bacterial contamination. Samples were collected daily on five or six days a week. No part of the unit was replaced or sterilized during the entire period. Swabs were collected from: (i) the adjustable valve 'at the mouth'; (ii) droplets of condensed water which had collected in the line to the patient; (iii) the outlet from the cooler; and (iv) a sample of sputum collected through the endotracheal tube. The results indicated a high incidence of contamination of the adjustable valve (43.5 per cent), whereas organisms were only collected once in the line to the patient and in the cooler. All parts of the CPAP system remained sterile while used on patients with uninfected sputum whereas contamination of the valve occurred in 71 per cent of those with infected sputum. Practical implications derived from the study are: (i) it is unnecessary to change the apparatus at frequent intervals as a matter of routine; (ii) the adjustable valve is likely to become contaminated if the patient has infected sputum; and (iii) it may be advisable to change the entire system if patients with severe pulmonary sepsis are maintained on CPAP for prolonged periods.

1466. SCHAFER, T. W. and others. **Biohazard potential: recovery of infectious virus from the liquid nitrogen of a virus repository.** *Health Laboratory Science*, Washington, D.C. 1976, Jan., vol. 13, no. 1, pp. 23-24.

This paper draws attention to a potential new source of laboratory-acquired infection. Flame-sealed glass ampoules containing vesicular stomatitis virus (VSV) were stored in

a liquid nitrogen (LN_2) refrigerator. On several occasions cracked or shattered ampoules were discovered on removal from the refrigerator. Subsequently, VSV was recovered from the LN_2 of the virus repository indicating a source of potential danger to those using glass ampoules submerged in LN_2 for preservation of pathogenic organisms. Appropriate safety precautions should be taken if glass ampoules are being used and plastic vials should be considered as an alternative.

1467. PRICE, T. H. **Isolation of salmonellas and *Shigella sonnei* from a laboratory bench.** *Journal of Hygiene*, London, 1976, June, vol. 76, no. 3, pp. 337-339.

Slide agglutinations were performed in the diagnosis of salmonella and shigella infection on an area of a laboratory bench, which was examined for these organisms. Broth-moistened throat swabs and impression plates were used for sampling. The results are presented in two tables. Precautions to minimize contamination of the bench surface are suggested, and it is advised that no more than six agglutinations should be performed on one slide, as the chances of environmental contamination are likely to increase in proportion to the number of agglutinations done.

PREVENTION AND CONTROL

See also Abstract No. 1467

1468. BABB, J. R. and others. **A source isolator for infected patients.** *Journal of Hygiene*, London, 1976, June, vol. 76, no. 3, pp. 355-366.

Two models of a polyvinyl chloride, mechanically ventilated source isolator with filters in the air effluent, were designed to enable infected patients to be nursed and treated in a general ward or to be transported without risk to staff or other contacts. Their potential value was tested by the challenge of heavy dispersal, inside the isolator, of bacteria: (i) from patients with burns, during the changing of dressings; (ii) from contaminated bedding during simulated bed-making; and (iii) from the dispersal of a suspension of *Bacillus subtilis* var. *globigii*. Sampling of the air of the room in which dressings were changed showed lower counts of bacteria and of *Staph. aureus* when the isolator was used; on removal of the isolator canopy it was found that the amount of airborne bacteria increased, due either to residual bacteria in the isolator, or to the redispersal of bacteria which settled on the patient and bedding during the dressing. Simultaneous sampling with slit samplers inside and outside the isolator during and after bed-making or dispersal of *B.subtilis* var. *globigii* showed an almost complete protection of the air outside the isolator against contamination by bacteria released inside the isolator.

1469. LUMLEY, J. and others. **Expiratory bacterial filters.** *Lancet*, London, 1976, July 3, vol. ii, pp. 22-23.

The physical characteristics of expiratory filters pose certain problems in practice as resistance can increase under certain circumstances thus endangering the patient's safety. This paper reports on the resistance characteristics and bacterial filtration efficiency of three types of unheated, siliconized, expiratory filters: (i) one autoclavable Williams anaesthetic filter; (ii) two disposable Ohio filters; and (iii) five prototype

disposable Pall filters. As no criteria exist by which filter resistance may be judged acceptable, it is proposed by this paper that a flow rate of 30l/min. filter resistance should be less than 10mm. H^2O (13.3 Pa). The Williams and Ohio filters fulfil these criteria but the resistance of the Pall filters was found to be unacceptably high. The two methods used for testing filtration efficiency were the B.S.I. sodium flame test and the bacterial penetration test. The Ohio and Pall filters allowed unacceptable sodium chloride penetrations, and bacterial filtration results confirmed that they were unsuitable for clinical use. The Microflow filters reached the required standards during prolonged use and the Williams filter failed after 200 autoclavings suggesting that minute cracks had developed allowing the passage of bacteria.

1470. MOSTAFA, A. B. M. G. and CHACKETT, K. F. **The cleaning and disinfection by heat of bedpans in automatic and semi-automatic machines.** *Journal of Hygiene*, London, 1976, June, vol. 76, no. 3, pp. 341-348.

Two series of experiments were carried out: (i) on a new automatic bedpan washing machine, referred to as the test machine; and (ii) on machines which had been in use for some time in eight different wards in a general hospital. Systematic investigations are reported into the cleaning and disinfection by heat of stainless steel and polypropylene bedpans, which had been soiled with either a biological contaminant, human serum albumin or a bacteriological contaminant. It was found that bedpan washers installed in wards were less efficient than the test machine, partly as a result of inadequate maintenance. Stainless steel and polypropylene bedpans gave essentially the same results although the former are more effectively disinfected, possibly because of better propagation of heat throughout the pans.

HYGIENE IN THE OPERATING THEATRE

1471. BRÖTE, L. and NILÉHN, B. **Wound infections in general surgery with special reference to the occurrence of** *Staphylococcus aureus*. *Scandinavian Journal of Infectious Diseases*, Stockholm, 1976, vol. 8, no. 2, pp. 89-97.

The epidemiology of post-operative wound infections in general surgery was studied in 2,827 patients in the Surgical Clinic, University Hospital, Linköping, during a 14-month period, with special reference to *Staphylococcus aureus*. The overall infection rate was 7.5 per cent. The sampling methods and classification of operations are outlined. During the first three post-operative days infecting strains were significantly more frequent in the immediate surroundings of the infected patient than in corresponding cultures from his fellow patients nursed in the same room. Carriers of strains related to infecting strains were more frequent among theatre staff than staff in general wards. The results indicate the possibility of pre-operative colonization of the patient in general wards, while inoculation of the surgical wound appears to occur in the operating theatre either from sources within the department from strains brought in with the patient or through other communications with the infected ward.

STERILIZATION

1472. CENTRAL STERILISING CLUB. **Eighteenth Annual Meeting Southampton 1976.** *Health and Social Service Journal*, London, 1976, June 26, vol. 86, no. 4496, supplement pp. 1-16.

The 12 papers given at this meeting covered: the microbial hazards of the hospital environment and their monitoring; hospital cleaning and disinfection centres at Dudley Road Hospital, Birmingham, Pinderfields General Hospital, Wakefield, and Portsmouth district hospitals; methods of informing medical students and doctors, nurses and CSSD staff; and an example of sterilizing methods used in West German hospitals. Summaries are given of the discussions at 'buzz' groups, which considered: the provision of CSSD supplies to users outside hospitals; possible hazards from the use of intravenous devices; and safety measures to prevent hazards to hospital staff.

AIR HYGIENE

See Abstract No. 1485

SAFETY MEASURES

ELECTRICAL ACCIDENTS

See also Abstract No. 1486

1473. LEEMING, M. N. **A probabilistic approach to safety design: the two-element environment.** *Medical Instrumentation*, Arlington, Va., 1976, Jan./Feb., vol. 10, no. 1, pp. 2-8.

A method of quantifying levels of electrical danger in the hospital is demonstrated by a probabilistic model representing a basic electrical environment. The conditions imposed on the model lead to results that question the basic methods of grounding for safety. Several situations are demonstrated in which an ungrounded system may be safer than a grounded one. The model calls for the collection and analysis of electrical data from which estimates of probabilities may be obtained and with which electrical methods may be refined and indicates that a high grounding reliability is necessary if grounding is to be used for safety.

RADIATION HAZARDS

See Abstract No. 1405

THE PATIENT

ADMISSION AND RECEPTION

1474. DURBRIDGE, T. C. and others. **An evaluation of multiphasic screening on admission to hospital: precis of a report to the National Health and Medical Research Council.** *Medical Journal of Australia*, Glebe, 1976, May 8, vol. i, no. 19, pp. 703-705.

A study designed to find out if there were benefits in terms of in-patient progress and hospital costs from carrying out unsolicited immediate investigations on a patient's admission to hospital was carried out on 500 test patients and 500 control patients. The results indicated that admission multiphasic screening (AMS) had no significant effect on a variety of indices of in-patient progress. An estimated 64 per cent increase in the estimated cost of investigations with AMS increased the total hospital cost by approximately five per cent. There was no difference in the length of hospital stay, neither was there evidence that patients need more detailed or quicker investigation than that requested by their attending doctors. AMS has added to the cost of hospital admission without producing evidence of benefit to the patient.

WELFARE OF THE PATIENT

See also Abstract Nos. 1418, 1509, 1515, 1516

1475. GREEN, L. W. **The potential of health education includes cost effectiveness.** *Hospitals*, Chicago, 1976, May 1, vol. 50, no. 9, pp. 57-61.

This paper discusses the benefits which are derived from health education: fewer broken appointments; reduction in unpaid bills; reduction in malpractice suits; improved community support; improved, speedier diagnosis; improved patient compliance; cost benefits; encouragement of consumer role; and reduced morbidity and mortality.

1476. ROSENBERG, S. and JUDKINS, B. A. **Federal programs make education an integral part of patient care.** *Hospitals*, Chicago, 1976, May 1, vol. 50, no. 9, pp. 62-65.

The first part of this paper is a report of a survey of health education activities in long-stay care facilities. The extent of such education is still limited, but there appear to be three types of general programme activities emerging: family teaching activities; physical assessment and patient teaching; and co-ordinated patient/family education. The second part outlines health education activities of the Co-operative Extension Service of the U.S. Department of Agriculture.

1477. NOBLE, E. **Hospital schools and parents.** *Special Education: Forward Trends*, Southwell, 1976, June, vol. 3, no. 2, pp. 13-15.

Hospital teachers have a unique opportunity to involve parents in their children's education. Modern paediatric training is beginning to focus on the treatment of children within the context of their families rather than on purely medical diagnosis

and physical care. Suggestions for methods of involving parents are outlined, together with the advantages of parent participation.

1478. COOPER, J. K. **Sweden's no-fault patient-injury insurance.** *New England Journal of Medicine*, Boston, Mass., 1976, June 3, vol. 294, no. 23, pp. 1268-1270.

Sweden has introduced a nationwide patient-injury compensation plan. The plan was introduced because so few injured patients received compensation through the tort liability scheme. The scheme improves the injured patient's ability to recover for injuries sustained as a result of medical treatment. The insurance plan began on 1 January 1975, its total cost is less than 50 cents per person and it is financed from general tax revenue. The results of the system indicate that more patients receive compensation but the compensation is smaller. Sweden's experience is projected to a population the size of the United States and the results compared with United States malpractice liability figures. A similar system in the United States would cost more because the awards and the frequency of claims would be higher.

VOLUNTARY SERVICE, VOLUNTARY WORKERS

See Abstract No. 1522

HOSPITAL CARE

See also Abstract Nos. 1491, 1504, 1507

1479. ANDERSON, M. **Primary nursing in day-by-day practice.** *American Journal of Nursing*, New York, 1976, May, vol. 76, no. 5, pp. 802-805.

The change from an existing care delivery system to primary nursing involves much consideration, and many problems will have to be resolved. Practical suggestions for preventing these problems are outlined. Leadership is of extreme importance together with the type and characteristics of members of staff. The maintenance of standards of care for a patient from admission to discharge is also important. The change-over is discussed under several heads: (i) head nurse turnover; (ii) role change; (iii) size of the nursing area; (iv) shifts; and (v) changes in patient population. A department involved in the change-over should involve staff at all times to enable them to learn more about primary care procedures.

1480. WIGZELL, F. W. and CONNON, A. **First impressions of a microcellular sponge pad in the prevention of bed sores.** *Gerontologia Clinica*, Basel, 1975, vol. 17, no. 4, pp. 230-235.

A new type of weight-bearing pad composed of microcellular sponge filled with liquid was evaluated during its use with nine elderly patients at Woodend General Hospital, Aberdeen. The results indicated that it is more comfortable than traditional methods; there are no moving parts to become unserviceable or deflate. Bed making is simpler than with a ripple mattress. Since it weighs 11.5 pounds the pad is able to stay in position in the middle of the mattress or chair without difficulty and it is portable

for home care and use within the hospital ward. Initial observation suggested that the microcellular sponge pad helped to prevent the progress of pressure sores even when the patient's general state pointed to a likely deterioration in the lesion.

1481. PLISKIN, J. S. and BECK, C. H. **A health index for patient selection: a value function approach with application to chronic renal failure patients.** *Management Science*, Providence, R.I., 1976, May, vol. 22, no. 9, pp. 1009-1021.

Definite criteria are needed for patient selection for scarce medical treatments and ranking of patient urgency for a given form of treatment. The mathematical theory of multi-attribute value functions is used to establish a health status index to rank order chronic renal failure patients with regard to therapeutic expectations. The area of application, theoretical background and method of calculation of the index is outlined. The paper demonstrates two procedures for assessing a value function over a discrete attribute. The proposed approach yields a rank ordering (health status index) consistent with the physician's preferences and judgment. The theory can be used for any medical decision system even when only weaker preferential independence properties apply.

1482. MCCOLL, I. and others. **Communication as a method of medical audit.** *Lancet*, London, 1976, June 19, vol. i, pp. 1341-1344.

Advances in the practice of medicine over the past 40 years have rendered informal communication ineffective in setting and maintaining standards of clinical care. Guy's Hospital has introduced four new methods of communication during the past four years: (i) problem-oriented medical records; (ii) death and complications meetings held to examine all incidents which have complicated the smooth recovery of the patient; (iii) unit review meetings to examine any part of the firm's work felt to be unsatisfactory; and (iv) a clinical information service designed for consultants based on the statistical analysis of 5,000 case notes. It is suggested that these four methods can help to improve quality control in medicine.

1483. FLEISHER, D. S. and others. **The Mandate Project: institutionalizing a system of patient care quality assurance.** *Pediatrics*, Evanston, Ill., 1976, May, vol. 57, no. 5, pp. 775-782.

A project is described in which 10 hospitals in the Greater Delaware Valley Region in 1970 voluntarily agreed to establish a quality assurance scheme to improve their quality of patient care. The project was based on the 'bi-cycle process', which involves five essential elements: (i) setting criteria and standards; (ii) collection of data; (iii) evaluation of performance; (iv) programmes to correct performance deficits; and (v) re-assessment. Five hospitals succeeded in fully implementing the scheme, each documenting improvements in patient care behaviour; four hospitals partly succeeded and one failed completely. The project demonstrates that a voluntary quality assurance scheme is feasible. Success appears to need a nucleus of at least three committed doctors and the co-operation of medical records staff, together with support from medical staff, administrative staff and the board of trustees. The scheme has important implications for professional standards review organizations and continuing medical education. The psychosocial factors should not be ignored when establishing such a scheme.

SPECIAL DEPARTMENTS

OPERATING SUITES

See also Abstract No. 1464

1484. LAUFMAN, H. **Trends in operating room devices.** *Medical Instrumentation*, Arlington, Va., 1976, March/April, vol. 10, no. 2, pp. 98-104.

Trends in operating theatre devices have followed advances in technology although they are not always influenced as much by surgical needs as they are by industrial expediency and commercial promotion. Trends in commonly used operating theatre devices are discussed, e.g. operating tables, surgical lighting, consoles, cabinets, air-cycling systems and clothing. The present need for standards of efficiency and standards for operating theatre devices is being met in the United States by the establishment of a governmental agency on devices, the writing of standards and the adherence by manufacturers to those standards. The effect of the proliferation of operating theatre devices and the current technical developments in operating theatre design and engineering are outlined.

1485. HUNTER, L. **An occupational health approach to anaesthetic air pollution.** *Medical Journal of Australia*, Glebe, 1976, April 3, vol. i, no. 14, pp. 465-468.

The principles of occupational health practice as applicable to operating theatre staff are stated. Operating theatre air was sampled for halothane at three Sydney hospitals, one in which a scavenging system was used, and two without such a system. Anaesthetists were free to vary the concentration of halothane and the circuit used as they would do normally. Sampling was discontinued if they left the operating theatre, and between operations. The scavenging system was found to be highly efficient—less than 0.1 ppm of halothane was found in the air of a theatre which had a flow rate of four litres per minute with 0.5 per cent halothane and controlled ventilation and was being used for routine anaesthetics in adults. In contrast, a theatre used for paediatric surgery had a flow rate of six litres per minute with 0.5 per cent halothane and a T piece and the air was found to contain 0.8 ppm of halothane. The results indicate that efficient venting can be achieved. Air-conditioning systems using partial recirculation of air should not be used since such systems raise the concentration of waste anaesthetic agents in the atmosphere. Attention to the prevention of spillages and meticulous maintenance of equipment must be carried out. Methods of biological monitoring of operating theatre staff should be developed in addition to the introduction of atmospheric monitoring.

1486. GONSER, D. I. and KRAFT, O. F. **Design hazards of electrosurgical devices.** *Medical Instrumentation*, Arlington, Va., 1976, March/April, vol. 10, no. 2, pp. 130-137.

The value of electrosurgery to the medical profession is not without potential hazards. These may be classified as: (i) radio-frequency burn hazards; (ii) shock hazards; (iii) electrocution hazards; and (iv) explosion hazards. All such hazards may result from equipment design circuitry, possible failure modes or operator error. The three basic electrosurgery systems currently being marketed are described: (i) grounded output systems; (ii) referred-to-ground output systems; and (iii) floating output

systems. Additional convenience and safety features introduced by manufacturers such as hand-held electrode switches may introduce new potential hazards. A safety system to eliminate most of the hazards cited for the other systems is proposed together with minimum circuit performance requirements. An electrosurgery standard is also evaluated.

PHARMACY

1487. AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY. **Pharmacists for the future: the report of the Study Commission on Pharmacy.** Ann Arbor, Mich., Health Administration Press, 1975, xi, 161pp. $6.00

This report, prepared by an independent body representing diverse educational and professional backgrounds, is the result of a two-year examination of the practice of pharmacy as an integral part of the health service system and of the process of pharmacy education. The report emphasizes the importance of the pharmacist as a provider of information on drugs. The Commission believes that the pharmacist must be defined as an individual who is engaged in 'one of the steps of a system called pharmacy', rather than simply as 'one who practises pharmacy'. It is recommended that pharmacy education should have three objectives—mastery of knowledge and acquisition of skills: (i) common to all the roles of pharmacy practice; (ii) needed for those differentiated roles requiring additional pharmacy knowledge and experience; and (iii) needed for those differentiated roles which require additional knowledge and skill other than pharmacy.

1488. BRAUNSTEIN, M. L. and JAMES, J. D. **A computer-based system for screening outpatient drug utilization.** *Journal of the American Pharmaceutical Association*, Washington, 1976, Feb., vol. 16, no. 2, pp. 82-85.

The Medical University of South Carolina Family Practice Center has set up a computer-based system to monitor out-patient drug use. The entire medical records of the centre's 6,000 patients are stored on a computer. The operating system MIIS is based on MUMPS (Massachussetts General Hospital Utility Multi-Programming System). The system is outlined. The pharmacist uses a cathode ray terminal to enter the prescriptions and a profile is built up about the original prescription and about its renewal history. Weekly reports are printed listing all patients who returned at an inappropriate interval for renewing their prescription or who did not return at all. The system is not only used for screening; it can be used for analysing the prescribing habits of doctors. The system has resulted in increased communication between the doctor and the pharmacist. It is hoped that such a scheme will help in the training of members of health care teams in solving the problems of delivering community health care.

1489. LAURIE, R. G. **Some thoughts on the future organisation of hospital pharmacy.** *Australian Journal of Hospital Pharmacy*, Prahran, Vic., 1976, vol. 6, no. 1, pp. 22-26.

Improvements in the organization of the New Zealand pharmacy system are discussed. Examples of the organization of hospital pharmacies in Australia and methods of providing a greater depth of service for graduates are outlined. An

organization model is proposed indicating movement of staff, levels of salary achievement and merit assessment scales. The philosophy is outlined that opportunity for promotion according to qualification and merit should always be available, encouraging people of merit to proceed to higher qualifications whilst people of lower ability should be encouraged to remain under improved terms of service at the laboratory technician level.

1490. BERBATIS, C. G. and ROTHWELL, J. P. **Preventing adverse drug reactions: identifying the patient at risk.** *Australian Journal of Hospital Pharmacy*, Prahran, Vic., 1976, vol. 6, no. 1, pp. 4-6.

The problems for the ward pharmacist in preventing adverse drug reactions are: (i) define a lower limit of serum creatinine at which a patient enters the 'risk' category; and (ii) identify the 'risk' patients in a hospital population. A scheme for recognizing and dealing with one category of 'patients at risk' has been introduced at Sydney Hospital. A dosage guide of popular antibiotics was constructed, linking drug dosage to creatinine clearance. The pharmacist checks the daily list of 'risk' patients before rounds, scrutinizing the medical records of patients and advising the prescriber of possible dosage adjustment. It is mandatory in the hospital for the pharmacist to seek co-operation with other specialist departments to facilitate greater efficiency in ward pharmacy. The results of the scheme are outlined.

1491. KNOBEN, J. E. **Drug utilization review: current status and relationship to assuring quality medical care.** *Drug Intelligence & Clinical Pharmacy*, Hamilton, Ill., 1976, April, vol. 10, no. 4, pp. 222-228.

Advances in the development of new drugs have made the use of drugs an integral part of the medical care process. The need for drug utilization reviews (DUR) to monitor drug use and drug prescribing has resulted in the development of cost control and quality assurance systems. The current status of the DUR is presented with an assessment of DUR systems in relation to out-patient and in-patient care. The use of DUR to determine quality-oriented care is considered. Most existing systems are centrally based and examine drug claims 'by exception' using quantity standards of appropriateness. The main deficiencies of current schemes are the lack of 'quality measures', and the need to integrate DUR into the overall medical care review process. New approaches to DUR need to be designed and evaluated, but they should also take into consideration the PSRO concurrent and retrospective review mechanisms as potential approaches for evaluating drug therapy.

1492. LABRECQUE, J. **Regional service center provides prepacked medications.** *Hospitals*, Chicago, 1976, May 1, vol. 50, no. 9, pp. 73-76.

The Regional Service Center for New England hospitals (RSC) was established 2½ years ago in Woburn, Mass., as an alternative to in-house unit dose prepackaging by hospital pharmacies. Operated by a commercial company, it is staffed by full-time technicians under the direction of a pharmacist with experience of hospital pharmacy operations. It now provides a service to over 70 hospitals. Its operations and services are described. Advantages to hospitals, especially smaller ones, include: reduced capital expenditure; improved quality control; and elimination of the staff, maintenance and operational problems of in-house systems.

LABORATORIES

See also Abstract Nos. 1461, 1467

1493. LAWTON, L. H. and BROWNFIELD, R. L. **The number of personnel needed to perform examinations.** *Health Laboratory Science*, Washington, D.C., 1976, April, vol. 13, no. 2, pp. 118-120.

The relative value system for measuring laboratory work load and productivity has been developed jointly by the Association of State and Territorial Public Health Laboratory Directors and the Center for Disease Control. This paper explains how the system may also be used for estimating the number and grade of staff needed to perform examinations, or to staff expanded or new services. Examples of the computation are given in a table.

1494. PETER, G. Organisations- und Kostenanalyse im Zentrallabor des Krankenhauses Scheibbs. **[Organizational and cost analysis of the central laboratory at Scheibbs Hospital.]** *Österreichische Krankenhaus-Zeitung*, Wien, 1976, April, vol. 17, no. 4, pp. 191-194, 197-202; June, vol. 17, no. 6, pp. 299-302, 305-312, 315.

This is a detailed analysis of the organization, equipment and capital and revenue costs of the hospital central laboratory at Scheibbs (Lower Austria). The study was made during the period 17 to 24 March 1975 when a total of 3,279 tests were carried out. A description is given of the main items of equipment in use, the working methods, staffing, and the average time each type of test took. The cost in Austrian schillings per individual test (including labour, materials, general costs and depreciation of equipment) was as follows: blood, 23.21; urine, 16.58; sugar in urine, 9.75; liver function, 78.66; blood sugar, 13.02; and sputum, 41.17. The full results of the study are set out in 24 tables.

1495. BOUDRY, M. R., MORICE, J. A. and MILLETT, E. J. **Real-time multi-access computing system for laboratory instrumentation.** *Biomedical Computer Technology*, Stevenage, Herts., 1976, April, pp. 48-52.

A system is described that allows several users simultaneous access to a minicomputer for real-time data acquisition, processing, storage and display of results. The system is a laboratory prototype and allows experimenters to make use of real-time computing data with a minimum of cost and effort. Both hardware and software are constructed on a modular basis to provide maximum flexibility and versatility. The instrument interface and computer interface are presented. Each experiment connects to the computer via a single coaxial cable which transmits data in both directions simultaneously at high speed. The hardware is organized so that it can handle efficiently a wide range of mixed data rates. The system has proved its use in connection with an X-ray microanalysis system attached to a scanning electron microscope, but benefits of such a system could equally well be achieved in the fields of medicine and biology.

1496. RICE, P. **Towards a universal laboratory computer.** *Biomedical Computer Technology*, Stevenage, Herts., 1976, April, pp. 19-24.

Laboratory computers are small general-purpose digital computers tailored for the use of workers in scientific research for taking measurements from and controlling

experimental apparatus in a laboratory. The history of digital computer systems for laboratory use is outlined. Advances in integrated-circuit technology and central processing units are discussed. The choice of programming language and the role of the laboratory interface in relation to the requirements of the experiment are analysed. Current trends in laboratory computers appear to be towards manufacturers producing systems which meet the requirements of the user by various add-on units. Care should be exercised in the choice of a system for it is possible to pay more for a local mini-computer system sending data to a large central computer than a complete local laboratory computer with correctly chosen peripherals.

1497. PETERS, M. **Evolution of computing in a clinical-chemistry laboratory.** *Biomedical Computer Technology*, Stevenage, Herts., 1976, April, pp. 25-31.

The history and the philosophy behind the use of computers in the Department of Clinical Chemistry, Wolfson Research Laboratories, Birmingham, is presented. The use began in 1965 when the availability of test results in machine-readable form encouraged their use in quality control and laboratory management. Improvements in the consistency of patient registration information resulted in cumulative reporting. An IBM 1130 was installed in 1969 to deal with this work. An off-line system to acquire information from 20 channels of analytical equipment was introduced in 1972 using results logged on to paper tape. Future developments and requirements are assessed. Data-entry stations provided at various points throughout the department would enable laboratory workers to call up relevant programs to process their data. Development of an analytical system using integral computers with both a control and processing function will result in a change in the role of the laboratory computer.

RADIOTHERAPY DEPARTMENT

See Abstract No. 1405

REHABILITATION

See Abstract No. 1515

DEPARTMENTS FOR SPECIAL THERAPY

See also Abstract Nos. 1419, 1463

1498. BANCROFT, J. and COLES, L. **Three years' experience in a sexual problems clinic.** *British Medical Journal*, London, 1976, June 26, vol. i, pp. 1575-1577.

The demand for help with sexual problems appears to be increasing, but there are few clinics in Britain that deal specifically with such problems. The experience of a clinic held at the Warneford Hospital, Oxford, is outlined. It is organized by a consultant psychiatrist, a lecturer, a senior registrar in psychiatry and two part-time women psychiatrists. The numbers of referrals have increased over the past three years from 151 in 1973 to 273 in 1975. Details of 200 consecutive patients or couples assessed in the clinic are analysed. The work load of the clinic is stabilizing as: (i) a three-month waiting list before the first appointment may discourage some patients; and (ii) the clinic's setting in a psychiatric department may have discouraged others. Various

factors determine whether a couple consider a problem sufficiently important to seek professional help: (i) severity; (ii) social implications of referral; and (iii) efficacy and acceptability of the help offered. Recommendations for administering a clinic include the need for both a male and a female therapist on the clinical team and the appropriate medical and gynaecological skills should be available.

1499. HORWITZ, J. P. and others. **Adjunct hospital emergency toxicology service: a model for a metropolitan area.** *Journal of the American Medical Association*, Chicago, 1976, April 19, vol. 235, no. 16, pp. 1708-1712.

A feasibility demonstration with a gas chromatograph/mass spectrometer/computer system (GC/MS) was established to provide a 24-hour, seven days a week adjunct emergency drug analysis service to more than 40 hospitals with full-time emergency departments in Metropolitan Detroit. Analysis of the service for one year revealed that more than 85 different drugs and other agents were identified in the body fluids of more than 1,000 victims of accidental or deliberate poisonings. At least one toxic substance was identified in 57 per cent of the cases and two or more drugs were found in 19 per cent of the victims. The study indicates that a centrally located GC/MS computer system can provide an effective toxicology service for a community, quickly identify a wide spectrum of toxic substances in an emergency situation and present an effective complement to the emergency services providing the treatment.

INTENSIVE CARE UNITS

See also Abstract No. 1462

1500. CHRISTOPHERSON, K. I. **Microprocessor technology adds new dimension to patient monitoring systems.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 50-51.

Three Canadian hospitals have adopted the new 'Alpha Monitoring System'; the first system to apply microprocessor technology to patient monitoring. Henderson General Hospital, Hamilton, Vancouver General Hospital and Scarborough Centenary Hospital, Toronto, use this system to give each bedside monitoring unit its own functions of memory storage and processing without the costs and a number of serious problems found in computer-based systems. The concept developed out of the recognition that patient loads in intensive care change almost daily, more monitoring capacity is requested by doctors and budgetary constraints limit the amount of new equipment any hospital can acquire. Unlike the computer-based systems only a small segment of Alpha can be affected by component failure. The system is also reliable, quick, easily maintained and cuts costs. The system operates on a single cable design. Bedside plug-in modules receive signals from the patient, amplify and convert them for display; these are simultaneously relayed to a nursing centre, where they are displayed in digital form. The impact of microprocessors on a broad spectrum of medical instrumentation is becoming evident in increased capacity and lower costs.

1501. PERLSTEIN, P. H. and others. **Computer-assisted newborn intensive care.** *Pediatrics*, Evanston, Ill., 1976, April, vol. 57, no. 4, pp. 494-501.

A minicomputer has been programmed to help in the intensive care of high-risk newborn babies in the intensive care nursery of Cincinatti General Hospital. The

computer provides 24-hour on-line access to physiological and environmental data and controls the heating of incubators. The control algorithm limits fluctuation in the incubator chamber and prevents sudden temperature changes which might induce apnoeic spells and bradycardia in susceptible infants. The mortality rate for 105 infants cared for using the computerized system was significantly lower than that for 105 matched controls using standard techniques. The results indicate that a computer can be used in an intensive care nursery, but there is not a clear indication of why this computer application contributed to the reduction in infant mortality. The study may be of use to other hospitals considering using a computer in intensive care units.

1502. GELSON, A. D. N. and others. **Course of patients discharged early after myocardial infarction.** *British Medical Journal*, London, 1976, June 26, vol. i, pp. 1555-1558.

The male coronary care unit of North Staffordshire Hospital Centre, Stoke-on-Trent, consists of 20 beds, six of which are equipped for continuous monitoring. Patients are monitored for 72 hours and restricted to bed for the first 24 hours. Of 358 survivors of infarction, 271 were discharged by the eighth hospital day, and 251 of them survived to six weeks after discharge. Successful resuscitation after cardiac arrest occurred mainly during the first 48 hours in hospital. Most patients kept in the ward beyond the eighth day had continuing complications and a worse prognosis than those discharged early. Six of the 20 patients who died between discharge and six weeks did so after readmission and 14 died as out-patients. The figures suggest that more prolonged in-patient care would not have reduced the late mortality, and justify continuing with an early discharge policy for most patients. Early discharge frees more beds for patients during the early hours after infarction, and probably leads to a quicker return to work with less anxiety and depression.

SPECIAL HOSPITALS AND UNITS

OUT-PATIENT

See also Abstract Nos. 1488, 1517, 1518

1503. KIRK, R. M. **Reducing outpatient attendances.** *British Medical Journal*, London, 1976, June 19, vol. i, pp. 1521-1522.

Limitation of future out-patient attendances can be achieved by indirect contact by letter and telephone. The initial consultation is conducted without hurry, and patients are given further appointments only if subsequent management is likely to be affected by the results of the initial investigations. Selected patients are told they will be informed of the results by letter, but need not attend unless requested to do so. Contact by telephone is the least used method of communication. Indirect contact frees the consultant to concentrate on patients attending for the first time. Such methods have not yet been fully exploited in the National Health Service, although they are used in private practice in Britain and the United States.

1504. LINDSAY, M. I. and others. **Quality-of-care assessment. 1. Outpatient management of acute bacterial cystitis as the model.** *Mayo Clinic Proceedings*, Rochester, Minn., 1976, May/June, vol. 51, nos. 5/6, pp. 307-312.

A study to determine whether a process audit of out-patient medical care would correlate with the outcomes of care and prove to be a valid method for assessing the quality of medical care in the out-patient setting, was carried out using as a model acute bacterial cystitis in women. A series of 42 cases was reviewed by retrospective analysis of patient records supplemented by follow-up interviews and collection of a urine culture. No significantly positive links were found between the processes for satisfactory care selected by the expert criteria committee and the observed results. The study highlights the difficulty of assessing the quality of out-patient medical care by process audit. Reasons for the failure of the study and deficiencies in the process audit method are discussed. A need for refining the method of measuring the quality of medical care is required.

1505. LAW, J. T., SLADEN, E. M. and MOWAT, K. A. **Community clinics.** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 26-29.

The Grace-Dundas Clinic, Toronto, was established by the Hospital for Sick Children in 1971. An account is given of how and why the clinic was founded. Reasons for the location of the clinic are: (i) the clinic is located in an area poorly served by doctors; (ii) pockets of increased infant mortality were discovered in certain areas of Toronto; (iii) there was an adequate population base; and (iv) public transport was readily available. It is located in a church basement, pews are used as waiting facilities. The services provided by the clinic are outlined, together with the advantages and disadvantages. The full-time staff comprises one nurse practitioner, a registered nurse, a dental assistant and a quadrilingual interpreter. Four dental interns also attend for half a day a week. The costs and role of the staff are outlined. The clinic performs an important role in health education; dentistry is the most frequent health problem in the clinic. The value of the clinic is to provide services of high quality, tailored to the needs of a group of people with particular problems. The negative aspects of the clinic are that it requires hospital subsidy, and there is a lack of involvement of providers of adult care.

CASUALTY AND ACCIDENT

1506. GROSSMAN, S. B. **Why a regional trauma unit?** *Hospital Administration in Canada*, Don Mills, Ont., 1976, May, vol. 18, no. 5, pp. 30, 32-33.

Regional trauma units (RTUs) have facilitated rapid, efficient treatment of critically ill patients and established an academic focus for the education of medical and paramedical staff. Sunnybrook Medical Centre, Toronto, a university teaching hospital and research centre, has developed an experimental RTU for total resuscitation and treatment. The communications system permits contact between the doctor in the RTU and the operator in the field and allows the staff in the unit to be notified prior to a patient's arrival. The trauma resuscitation team (TRT) in the RTU accept the patient on arrival. The TRT is a unique concept in Ontario. It is on call for 24 hours; the leader of each of the four teams is a consultant chosen from one of the surgical

specialties at Sunnybrook Medical Centre, working with an anaesthetist, two surgical residents and two nurses. The TRT resuscitates the patient so that further medical care may be given by other services. The role and work of the TRT is outlined. The RTU is an experiment and as such must prove itself viable before being considered successful. Co-operation is an essential feature of the system's success.

1507. McNamara, J. J., Gourji, A. and Green, M. **Assessing the quality of care by house staff in a municipal hospital emergency department.** *Journal of the American College of Emergency Physicians*, East Lansing, Mich., 1976, April, vol. 5, no. 4, pp. 257-261.

Quality of care in emergency departments is often questioned but rarely scrutinized. The hypothesis that there would be an improvement in the process of care by using a medical records audit and reviewing the findings with the staff and those responsible for their training was tested over a one-year period. An audit form used to evaluate information from patients' emergency department charts was developed and a random sample of patients assessed for quality of care. Out of 21 audit items, 14 showed no significant change. Of the remaining seven, only three items showed significant improvement. Other factors directly affecting the results are: (i) patient/staff ratios; (ii) supervision; (iii) educational focus of staff training; (iv) physical nature of the department; (v) staff behaviour and motivation; and (vi) control and supervision of staff. Changes in these factors appear to be more relevant to improving the quality of care than an educational audit.

INFECTIOUS DISEASES AND ISOLATION

See Abstract No. 1468

CHILDREN

See also Abstract Nos. 1477, 1505

1508. North, A. F. **When should a child be in the hospital?** *Pediatrics*, Evanston, Ill., 1976, April, vol. 57, no. 4, pp. 540-543.

Standards for the admission of children to hospital are currently based on statistical analyses or normative values based on a consensus of opinion. A generic approach to hospital utilization by children may be more precise and more feasible. The need to admit a child is dependent upon the special services which the child requires rather than on the diagnosis. Children who require the following services require in-patient care: (i) general anaesthesia; (ii) intensive observation and monitoring; (iii) intravenous and other parenteral treatment; (iv) respiratory treatment involving oxygen tents, respirators or similar equipment; (v) special therapeutic modalities requiring frequent application of special nursing or technical skills; (vi) removal from dangerous home situations; (vii) observation under controlled environmental situations; (viii) suicide attempt or threat; and (ix) to establish maternal-infant attachment in the neonatal period. Criteria for discharge are outlined, together with their application. Tables are included of the 25 most common diagnoses of children from 0 to 19 years of age admitted to approximately 1,200 hospitals in the United States and of those admitted to the Children's Hospital of Pittsburgh.

1509. HARVEY, S. **Hospital play schemes.** *Health and Social Service Journal*, London, 1976, June 5, vol. 86, no. 4493, pp. 1026-1027.

The value of play for children in hospital has been recognized by paediatricians, psychiatrists, nurses and other hospital staff and it has been found that children involved in play schemes are easier to look after, and that the after-effects of a stay in hospital are less severe. As an increasing number of hospitals are appointing their own play staff, the National Association of Hospital Play Staff was formed with a view to giving support and guidelines, improving standards of work, and achieving a recognized training and salary structure. The hospital play specialist needs training in normal child development and experience in working with a wide age range of children, individually and in groups. She must know how to select and maintain equipment and to adapt it to children with special needs. She must also know basic facts about medical procedures and should attend nurses' reports and regular ward meetings, as well as encourage parents to join in activities. It is recommended that there should be at least one play specialist per ward, working a 42-hour week which may include some week-end duties, with four to six week's holiday to be taken outside school holidays. Salaries vary enormously throughout the country, but £3,000 a year (1976) is considered as the average for a full-time worker.

1510. FONTANA, V. J. and ROBISON, E. **A multi-disciplinary approach to the treatment of child abuse.** *Pediatrics*, Evanston, Ill. 1976, May, vol. 57, no. 5, pp. 760-764.

The New York Foundling Hospital Center for Parent and Child Development began a demonstration scheme using a multidisciplinary treatment approach for the prevention of child maltreatment. The aim of the scheme was to provide services for mothers in an attempt to maintain the family unit and prevent separation of mother and child. A multidisciplinary team of professional and paraprofessional staff provided medical, psychiatric and social services in an innovative approach, which stressed residential care for mother and child, behaviour modification through corrective child care experiences, personality modifications through individual and group therapy and environmental and social changes through staff assistance and education. The results of the scheme show that intervention was successful in preventing separation of mother and child in 65 per cent of the cases that were treated. All the children in the scheme showed growth and development gains a few weeks after admission which in many cases paralleled the mother's improved emotional stability.

1511. ARTHUR, L. J. H. and others. **Non-accidental injury in children: what we do in Derby.** *British Medical Journal*, London, 1976, June 5, vol. i, pp. 1363-1366.

A scheme for dealing with cases for non-accidental injury in children in the Derby clinical area has been operating since 1971. A stable team of doctors, police and social workers deal with each case. Derbyshire Children's Hospital is the only specialist children's hospital serving the area. When a case of battering is suspected the hospital informs the parents, and the police and social services department co-operate in establishing the facts, supporting the family and protecting the child. A psychiatric assessment of the parents may help social workers decide on the long-term care of the child. The team has made three recommendations about prevention and management of cases: (i) a specialist social service team should be established; (ii) babies should be

routinely weighed naked in infant welfare clinics; and (iii) juvenile courts should be able to order a psychiatric report on the parents in care proceedings.

GERIATRICS AND LONG-STAY

See also Abstract Nos. 1456, 1476, 1480

1512. PINEL, C. and SERIKI, C. **Nursing establishments in geriatric hospitals.** *Nursing Times*, London, 1976, June 3, vol. 72, no. 22, pp. 850-853.

A study was carried out over a 13-week period to determine the nursing establishment in relation to the number of nurses actually working at the bedside in a 302-bed geriatric hospital at different times of the day. The 'day' was divided into four sections: 0800 to 1200; 1200 to 1630; 1630 to 2030 and 2030 to 0800. The project shows the number of staff available in a geriatric hospital with a nurse/patient ratio of 1 to 1.40. The relatively lower number of staff allocated at week-ends was responsible for the heavier work load and possibly caused a higher rate of absence. The night staff had an average of 9.82 per cent absence. Recommendations on staffing include: (i) the allocation of staff should be spread more evenly throughout the week; (ii) night staff should be allocated on a ward or unit basis to develop a team concept and a more stable work force; (iii) night sisters/charge nurses should be decentralized to take charge of a regular unit; and (iv) care should be taken in recruiting and employing staff unable to reconcile domestic and employment obligations. Further studies are required on nursing staff establishments. It is the opinion of the authors that the nurse/patient ratio of 1:1.40 is not enough to cater for all the physical and emotional needs of the elderly.

1513. MURNAGHAN, J. H., editor. **Long-term care data: report of the conference on long-term health care data held at Tucson Arizona, May 12-16, 1975, sponsored by the National Center for Health Statistics and Johns Hopkins University.** *Medical Care*, Philadelphia, 1976, May, vol. 14, no. 5, supplement, pp. 1-233.

This conference was held to develop the general guidelines and content areas of a minimum basic data set for long-term care, with special reference to patient- or client-related data characterizing the individual's background, needs, condition, treatment and outcome. The report comprises: (i) a review of the conference proceedings, including its recommendations; and (ii) 30 of the conference working papers covering basic data requirements, methodological problems of common terminology, measurement and classification, and development of long-term care data systems.

1514. PELLATT, D. J. R. **Caring for the younger disabled.** *Nursing Mirror*, Sutton, Surrey, 1976, June 3, vol. 142, no. 23, pp. 57-59.

Orchard View, Ham Green Hospital, Bristol, provides care for the younger disabled in a new purpose-built unit. The staff consists of a consultant neurologist with a consultant physician, a local general practitioner and a charge nurse. There is an establishment of 16 full-time nursing staff, including staff nurses, enrolled nurses and auxiliaries (although this complement has proved to be inadequate), together with part-time social workers, physiotherapists, occupational therapists, and a housekeeper. There are three-monthly meetings for the administrative staff and fortnightly clinical

meetings providing close liaison between staff and patients. Referrals for admission are channelled to the consultant via the medical officer for Avon Area Health Authority; all prospective residents are visited: (i) to assess the patient and to see how well he will fit into the unit; (ii) to enable him to fit into the unit more readily; and (iii) to dispel any scepticism the patient may have regarding the unit. The training of the staff is outlined. The unit has been accepted as a training centre by the General Nursing Council and hopes to offer a month's training in the concepts of care. The role of the unit covers five areas: residential; short-term rehabilitation; five-day week care; holiday care; and day care. Each of the areas of care is outlined. A floor plan of the unit and photographs are included.

NEUROLOGY AND NEUROSURGERY

1515. MYKYTA, L. J. and others. **Caring for relatives of stroke patients.** *Age and Ageing*, London, 1976, May, vol. 5, no. 2, pp. 87-90.

The rehabilitation unit of the Repatriation General Hospital, Daw Park, Adelaide, Australia, serves a mixed population of ex-service people and their dependants. The majority of stroke patients admitted to the unit are internal transfers from other wards of the hospital. The methods used to involve relatives of stroke patients in the rehabilitation process are outlined. Relatives have interviews with the unit specialist or registrar, the medical social worker and one other team member, e.g. the occupational therapist, who seems most appropriate to the patient's case. The use of group therapy techniques among relatives is described, together with the issues commonly encountered. The group sessions have been found extremely beneficial and relatives are grateful for having technical problems explained to them in lay terms. The staff have found the experience rewarding and by analysing problems which are brought up they can be anticipated at an earlier stage of treatment and the information used to fill any gaps in current management.

CARDIOLOGY

See Abstract No. 1502

UROLOGY

See Abstract Nos. 1419, 1463, 1481

SURGERY

1516. FELTON, G. and others. **Preoperative nursing intervention with the patient for surgery: outcomes of three alternative approaches.** *International Journal of Nursing Studies*, Oxford, 1976, vol. 13, no. 2, pp. 83-96.

A study was carried out to determine the outcome of three nursing approaches to the pre-operative preparation of the surgical patient on frequency of post-operative complications, ventilatory function, manifest anxiety level and patient's perceptions of psychological well-being. Various hypotheses are put forward and the literature on the prevention of complications during the post-operative period is reviewed. A sample of 62 first-time major surgery patients selected from eight units in two large medical centres in the eastern United States, were studied from January to December 1974.

Information regarding post-operative well-being was obtained from self reports and evaluation of circulatory and respiratory status. Subjects were distributed into three groups (experimental, communication and control). The results indicated that there is a general need for reliable and valid measures of patient well-being to determine the effectiveness of nursing intervention with the surgical patient. Problems of identifying the quality and effectiveness of nursing care may lie less in the method of data collection than in asking the right questions and determining the significant variables. The experimental approach could be equally valuable with groups of patients and should be combined with close post-operative supervision of the patient. A list of 77 references to the literature is included.

1517. SMITH, M. A. **Planned early surgical discharge and major out-patient surgery.** *Queen's Nursing Journal*, London, 1976, June, vol. 19, no. 3, pp. 72-73.

All six city hospitals in Edinburgh with surgical wards now discharge patients home to the care of their general practitioners and district nursing sisters after a minimum stay of 24 hours, normally five to six days, following their operations. The scheme has helped to reduce the waiting lists for surgery. There is close liaison between the community nursing service and the hospitals through the nursing officers. The ward sister or staff nurse is seen personally by the nursing officer for the district and details of the operation and treatment are relayed to the district nursing officer in charge of the case, who visits the patient and gives the appropriate treatment. The success of the early discharge scheme has led to the development of major out-patient surgery at the Western General Hospital. Early mobilization is encouraged for patients discharged home after out-patient surgery. The success of the out-patient surgery scheme depends on good communication and integration of services between all concerned.

1518. O'DONOVAN, T. R. **Ambulatory surgery.** *Royal Society of Health Journal*, London, 1976, June, vol. 96, no. 3, pp. 129-133, 146.

Ambulatory surgery is defined as all surgery performed on an elective basis on patients who do not stay overnight in hospital. The advantages of ambulatory surgery are: (i) reduced costs; (ii) more effective use of time; (iii) relief of congestion in hospitals; (iv) patient may return to work earlier; (v) reduction of psychological stress; (vi) tailor-made patient care to meet the needs of the 'non-sick'; and (vii) the patient receives fewer drugs since he is under medical supervision for a shorter length of time. Current attitudes, costs, and development of schemes in the United States are outlined. The major areas of research necessary in ambulatory surgery are analysed. Three basic models of American ambulatory care centres are described. A list of 57 references is included.

MATERNITY

See also Abstract Nos. 1384, 1462, 1501

1519. FERSTER, G. and PETHYBRIDGE, R. J. **A local maternity care system in south west England under review.** *International Journal of Health Services*, New York, 1975, vol. 5, no. 4, pp. 663-678.

A study was carried out of the maternity care system in the catchment area of a health district in south west England during 1970. The local resources consisted of a

consultant maternity unit, a special care baby unit, five general practitioner units and the associated medical and nursing staff, and two local authority domiciliary midwife services. The number of births in 1970 was about 3,750. The concept of the 'stream' of care received by the mother is outlined. The deliveries are classified in terms of non-intervention and intervention at delivery. Perinatal mortality is not in itself an adequate measure of the overall performance of a local maternity care system so other performance indices are used. These are based upon the extent to which the resources available diverge between booking and actual usage. Results obtained indicate that there is an opportunity for considering a variety of alternative policies, given the present resources of the system. Account must be taken of the social needs of the patients, the morale of groups of staff, and the accessibility of hospitals to patients living in rural areas.

1520. ROEDER, J. L. **Developing a system of large obstetrical services.** *Hospital and Health Services Administration*, Chicago, 1976, vol. 21, no. 2, pp. 73-87.

The planning of maternity services has been based on the assumption that obstetrics is an integral part of every short-stay general hospital. This assumption is being questioned because advantages may accrue to larger services and the birth rate is falling. Studies have suggested that a maternity department can only be justified if a hospital has 1,500 or more births a year, except in rural areas where 500 may be acceptable. The advantages demonstrated for fewer, larger units include: higher occupancy rate; more efficient use of staff; more efficient use of delivery rooms; improved quality of care, including more specialized services; better infection control; wider staff experience; and increased job satisfaction. In a survey in 14 large cities only 39.2 per cent of hospitals with maternity departments had more than 1,500 births per year and in 15 rural or small city counties only 25 per cent had more than 500 births per year. Two approaches to developing a system of fewer and larger maternity services are outlined: closing of services by the individual hospital; and amalgamation of services by two or more hospitals. The forces affecting the trend towards large services are discussed and some case studies are presented.

OPHTHALMOLOGY

1521. KERSLEY, H. J. **A study of hospital contact lens practice.** *Optician*, London, 1976, June 4, vol. 171, no. 4436, pp. 7, 9-11.

This paper is based on replies to a questionnaire sent to 360 ophthalmologists of whom 59 per cent, representing 133 hospitals, replied. Half of these had contact lens clinics, of which 19 per cent were run by ophthalmologists and 20 per cent by opticians, with shared responsibility in 11 per cent. Of the 50 per cent who had no clinic, 68 per cent sent patients to outside opticians and 32 per cent sent work exclusively to other hospitals. A map showing the distribution of the clinics and brief statements on nine of the contact lens departments are included.

PSYCHIATRY

See also Abstract Nos. 1391, 1420-1422

1522. GAUNTLETT, T. **Code of conduct for students.** *New Psychiatry*, London, 1976, June 10, vol. 3, no. 12, pp. 16-18.

Student volunteer involvement in hospitals is valuable, but while they are useful their employment in a time of recession has been attacked by some trade unions. A

code of conduct is required. Staff should be able to specify what tasks should not be done by volunteers. Volunteers should not do tasks where they are being exploited or where they supplement deficiencies in the standards of care. They should not receive payment for that work, neither should they be used during industrial disputes. Students should make every effort to involve staff as well as patients in whatever activity they are doing. There are examples where student activities have changed the lives of mentally handicapped people and have shown a quality of experience that staff at present do not share. These activities pose a challenge to all working in the hospitals to use their imagination, skill and energy to the full.

1523. SYKES, P. **Integrated psychiatric care.** *Medical Record*, Boston, Lincs., 1976, May, vol. 17, no. 2, pp. 125-132.

The history of the development of integrated psychiatric care is outlined. Three elements of the service that need to be examined are: (i) the provision of a department for psychiatric patients including day and out-patient care; (ii) a psycho-geriatric assessment facility with contacts with the department of geriatric medicine; and (iii) the setting up of joint planning and organization of services within the community. As comprehensive services are set up within different areas there will be a gradual decline in the services provided by psychiatric hospitals. The problems involved in establishing such a service are outlined. Developments since reorganization of the National Health Service are analysed, together with the role of the community health councils. The author hopes that a system will evolve in which the local people will have a say in the services and the standard and rate of provision of services will correlate realistically with the local requirements.

1524. CURTIS, W. R. **From state hospital to integrated human service system: managing the transition.** *Health Care Management Review*, Germantown, Md., 1976, vol. 1, no. 2, pp. 39-50.

Case histories illustrate two approaches to psychiatric care: (i) the traditional; and (ii) the human service organization. The extreme variation in these illustrates five tensions, which are discussed: (i) categorical functions versus human service functions; (ii) centralization versus decentralization; (iii) community of interest versus geographical community; (iv) specialist versus generalist; and (v) internal cause versus external cause. The paper goes on to describe the use of matrix organization in the development of Taunton (Mass.) State Hospital into a human service organization providing six essential services; in-patient, out-patient, partial hospitalization, 24-hour emergency services, consultation and education, and community residences.

SOCIAL MEDICINE

See Abstract Nos. 1505, 1510, 1511

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